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DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Part 226

[Docket No. 130404330-3330-01]

RIN 0648-BC76

Endangered and Threatened Species; Designation of Critical Habitat for Yelloweye Rockfish, Canary Rockfish and Bocaccio of the Puget Sound/Georgia Basin

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Proposed rule; request for comments.

SUMMARY: We, the National Marine Fisheries Service (NMFS), propose to designate critical habitat for three species of rockfish listed under the Endangered Species Act (ESA), including the threatened Distinct Population Segment (DPS) of yelloweye rockfish (*Sebastes ruberrimus*), the threatened DPS of canary rockfish (*S. pinniger*), and the endangered DPS of bocaccio (*S. paucispinus*) (listed rockfish). The specific areas proposed for designation for canary rockfish and bocaccio include approximately 1,184.75 sq mi (3,068.5 sq km) of marine habitat in Puget Sound, Washington. The specific areas proposed for designation for yelloweye rockfish include approximately 574.75 sq mi (1,488.6 sq km) of marine habitat in Puget Sound, Washington. We propose to exclude some particular areas from designation because the benefits of exclusion outweigh the benefits of inclusion and exclusion of those areas will not result in the extinction of the species.

We are soliciting comments from the public on all aspects of the proposal, including information on the economic, national security, and other relevant impacts of the proposed designations, as well as the benefits to the species from designations. We will consider additional information received prior to making final designations.

DATES: Comments on this proposed rule must be received by 5 p.m. P.S.T. on [insert date 90 days after date of publication in the FEDERAL REGISTER]. Requests for public hearings must be made in writing by [insert date 45 days after date of publication in the FEDERAL REGISTER].

ADDRESSES: You may submit comments on the proposed rule, identified by FDMS docket number [NOAA-NMFS-2013-0105], by any one of the following methods:

- Electronic Submissions: Submit all electronic public comments via the Federal eRulemaking Portal Go to www.regulations.gov/#!docketDetail;D=NOAA-NMFS-2013-0105. click the “Comment Now” icon, complete the required fields, and enter or attach your comments.

- Fax: 206–526-6426, Attn: Dan Tonnes.

- Mail: Chief, Protected Resources Division, Northwest Region, National Marine Fisheries Service, 7600 Sand Point Way NE, Seattle, WA, 98115.

Instructions: You must submit comments by one of the above methods to ensure that we receive, document, and consider them. Comments sent by any other method, to any other address or individual, or received after the end of the comment period may not be considered. All comments received are a part of the public record and will generally be posted for public viewing on <http://www.regulations.gov> without change. All personal identifying information (e.g., name, address, etc.) confidential business information, or otherwise sensitive information submitted voluntarily by the sender will be publicly accessible. We will accept anonymous

comments (enter “N/A” in the required fields if you wish to remain anonymous). Attachments to electronic comments will be accepted in Microsoft Word, Excel, or Adobe PDF file formats only.

The proposed rule, list of references and supporting documents (including the Draft Biological Report (NMFS, 2013a), the Draft Economic Analysis (NMFS, 2013b), and the Draft Section 4(b)(2) Report (NMFS, 2013c)) are also available electronically at <http://www.nwr.noaa.gov>.

FOR FURTHER INFORMATION CONTACT: Dan Tonnes, NMFS, Northwest Region, Protected Resources Division, at the address above or at 206-526-4643; or Dwayne Meadows, NMFS, Office of Protected Resources, Silver Spring, MD, 301-427-8403.

SUPPLEMENTARY INFORMATION:

Background

On April 28, 2010, we listed the Puget Sound/Georgia Basin Distinct Population Segments (DPSs) of yelloweye rockfish and canary rockfish as threatened under the Endangered Species Act (ESA), and bocaccio as endangered (75 FR 22276). We are responsible for determining whether species, subspecies, or distinct population segments (DPSs) are threatened or endangered and designating their critical habitat under the ESA (16 U.S.C. 1531 *et seq.*). In our proposal to list yelloweye rockfish, canary rockfish, and bocaccio (74 Fed. Reg. 18516, April 23, 2009), we requested information on the identification of specific areas that meet the definition of critical habitat. We also solicited biological and economic information relevant to making a critical habitat designation for each species. We reviewed the comments provided and the best available scientific information, and at the time of listing we concluded that critical habitat was not determinable for each species because sufficient information was not available

to: (1) identify the physical and biological features essential to conservation, and (2) assess the impacts of a designation. In addition to the data gaps identified at the time of listing, sufficient information was not available to fully determine the geographical area occupied by each species. Following promulgation of the final rule to list each species, we continued compiling the best available information necessary to consider a critical habitat designation and additional information is now available for these three DPSs to better inform the designation process.

We considered various alternatives to the proposed critical habitat designation for yelloweye rockfish, canary rockfish, and bocaccio of the Puget Sound/Georgia Basin. The alternative of not designating critical habitat for each species would impose no economic, national security, or other relevant impacts, but would not provide any conservation benefit to the species. This alternative was considered and rejected because it does not meet the legal requirements of the ESA and would not provide for the conservation of each species. The alternative of designating all potential critical habitat areas (i.e., no areas excluded) also was considered and rejected because for some areas the benefits of exclusion outweighed the benefits of inclusion. An alternative to designating all potential critical habitat areas is the designation of critical habitat within a subset of these areas. Under section 4(b)(2) of the ESA, we must consider the economic impacts, impacts on national security, and other relevant impacts of designating any particular area as critical habitat. The Secretary of Commerce (Secretary) has the discretion to exclude an area from designation as critical habitat if the benefits of exclusion (i.e., the impacts that would be avoided if an area were excluded from the designation) outweigh the benefits of designation (i.e., the conservation benefits to these species if an area were designated) so long as exclusion of the area will not result in extinction of the species. We prepared an analysis describing our exercise of discretion, which is contained in our final

Section 4(b)(2) Report (NMFS, 2013c). Under this alternative we propose to exclude Indian lands as well as several areas under the control of the Department of Defense (DOD). We selected this alternative because it results in a critical habitat designation that provides for the conservation of listed rockfish while avoiding impacts to Indian lands and impacts to national security. This alternative also meets the requirements under the ESA and our joint NMFS-U.S. Fish and Wildlife Service (USFWS) regulations concerning critical habitat.

Yelloweye Rockfish, Canary Rockfish, and Bocaccio Natural History and Habitat Use

Our draft Biological Report (NMFS, 2013a) describes the life histories of yelloweye rockfish, canary rockfish and bocaccio in detail, which are summarized here. Their life histories include pelagic larval and juvenile stages followed by a juvenile stage in shallower waters, and a sub-adult/adult stage. Much of the life history of these three species is similar, with differences noted below.

Rockfish are iteroparous (i.e., have multiple reproductive cycles during their lifetime) and are typically long-lived (Love et al., 2002). Yelloweye rockfish are one of the longest lived of the rockfishes, reaching more than 100 years of age. Yelloweye rockfish reach 50 percent maturity at sizes of 16 to 20 inches (40 to 50 centimeters) and ages of 15 to 20 years (Rosenthal et al., 1982; Yamanaka and Kronlund, 1997). The maximum age of canary rockfish is at least 84 years (Love et al., 2002), although 60 to 75 years is more common (Cailliet et al., 2000). Canary rockfish reach 50 percent maturity at sizes around 16 inches (40 centimeters) and ages of 7 to 9 years. The maximum age of bocaccio is unknown, but may exceed 50 years. Bocaccio are reproductively mature near age 6 (FishBase, 2010). Mature females of each species produce from several thousand to over a million eggs annually (Love et al., 2002). Being long-lived

allows each species to persist through many years of poor reproduction until a good recruitment year occurs.

Rockfish fertilize their eggs internally and the young are extruded as larvae. Upon parturition (birth), larval rockfish can occupy the full water column but generally occur in the upper 80 m (262 feet) (Love et al., 2002; Weis, 2004). Larval rockfish have been documented in Puget Sound (Greene and Godersky, 2012), yet most studies have not identified individual fish to species. There is little information regarding the habitat requirements of rockfish larvae, though other marine fish larvae biologically similar to rockfish larvae are vulnerable to low dissolved oxygen levels and elevated suspended sediment levels that can alter feeding rates and cause abrasion to gills (Boehlert, 1984; Boehlert and Morgan, 1985; Morgan and Levings, 1989). Larvae have also been observed immediately under free-floating algae, seagrass, and detached kelp (Shaffer et al., 1995; Love et al., 2002). Oceanographic conditions within many areas of Puget Sound likely result in the larvae staying within the basin where they are born rather than being more broadly dispersed by tidal action or currents (Drake et al., 2010).

Pelagic juveniles occur throughout the water column (Love et al., 2002; Weis, 2004). When bocaccio and canary rockfish reach sizes of 1 to 3.5 inches (3 to 9 centimeters) or 3 to 6 months old, they settle into shallow, intertidal, nearshore waters in rocky, cobble and sand substrates with or without kelp (Love et al., 1991; Love et al., 2002). This habitat feature offers a beneficial mix of warmer temperatures, food, and refuge from predators (Love et al., 1991). Areas with floating and submerged kelp species support the highest densities of juvenile bocaccio and canary rockfish, as well as many other rockfish species (Carr, 1983; Halderson and Richards, 1987; Matthews, 1989; Love et al., 2002). Unlike bocaccio and canary rockfish, juvenile yelloweye rockfish are not typically found in intertidal waters (Love et al. 1991;

Studebaker et al. 2009), but are most frequently observed in waters deeper than 98 feet (30 meters) near the upper depth range of adults (Yamanaka et al., 2006).

Depth is generally the most important determinant in the distribution of many rockfish species of the Pacific coast (Chen, 1971; Williams and Ralston, 2002; Anderson and Yoklavich, 2007; Young et al., 2010). Adult yelloweye rockfish, canary rockfish, and bocaccio generally occupy habitats from approximately 30 to 425 m (90 ft to 1,394 ft) (Orr et al., 2000; Love et al., 2002), and in Federal waters off the Pacific coast each species is considered part of the “shelf rockfish” assemblage under the authorities of the Magnuson-Stevens Fishery Conservation and Management Act because of their generally similar habitat usages (50 CFR 660, Subparts C-G).

Adult yelloweye rockfish, canary rockfish, and bocaccio most readily use habitats within and adjacent to areas that are highly rugose (rough). These are benthic habitats with moderate to extreme steepness; complex bathymetry; and/or substrates consisting of fractured bedrock, rock, and boulder-cobble complexes (Yoklavich et al., 2000; Love et al., 2002; Wang, 2005; Anderson and Yoklavich, 2007). Most of the benthic habitats in Puget Sound consist of unconsolidated materials such as mud, sand, clays, cobbles and boulders, and despite the relative lack of rock, some of these benthic habitats are moderately to highly rugose. More complex marine habitats are generally used by higher numbers of fish species relative to less complex areas (Anderson and Yoklavich, 2007; Young et al., 2010), thus supporting food sources for sub-adult and adult yelloweye rockfish, canary rockfish, and bocaccio. More complex marine habitats also provide refuge from predators and their structure may provide shelter from currents, thus leading to energy conservation (Young et al., 2010).

Though areas near rocky habitats or other complex structure are most readily used by adults of each species, non-rocky benthic habitats are also occupied. In Puget Sound, adult

yelloweye rockfish, canary rockfish, and bocaccio have been documented in areas with non-rocky substrates such as sand, mud, and other unconsolidated sediments (Haw and Buckley, 1971; Washington, 1977; Miller and Borton, 1980; Reum, 2006).

Prey

Food sources for yelloweye rockfish, canary rockfish, and bocaccio occur throughout Puget Sound. However, each of the basins has unique biomass and species compositions of fishes and invertebrates, which vary temporally and spatially (Rice, 2007; Rice et al., 2012). Absolute and relative abundance and species richness of most fish species in the Puget Sound/Georgia Basin increase with latitude (Rice, 2007; Rice et al., 2012). Despite these differences, each basin hosts common food sources for yelloweye rockfish, canary rockfish, and bocaccio as described below.

Larval and juvenile rockfish feed on very small organisms such as zooplankton, copepods and phytoplankton, small crustaceans, invertebrate eggs, krill, and other invertebrates (Moser and Boehlert, 1991; Love et al., 1991; Love et al., 2002). Larger juveniles also feed upon small fish (Love et al., 1991). Adult yelloweye rockfish, canary rockfish, and bocaccio have diverse diets that include many species of fishes and invertebrates including but not limited to crabs, various rockfish (Sebastes spp.), flatfish (Pleuronectidae spp.), juvenile salmon (Oncorhynchus spp.), walleye pollock, (Theragra chalcogramma), Pacific hake (Merluccius productus), Pacific cod (Gadus macrocephalus), green sea urchin (Stongylocentrotus droebachiensis), lingcod (Ophiodon elongates) eggs, various shrimp species (Pandalus spp.), and perch (Rhacochilus spp.). Common forage fish that are part of their diets include Pacific herring (Clupea harengus pallasi), surf smelt (Hypomesus pretiosus), and Pacific sand lance (Ammodytes hexapterus) (Washington et al., 1978; Lea et al., 1999; Love et al., 2002; Yamanaka et al., 2006).

Statutory and Regulatory Background for Critical Habitat Designations

The ESA defines critical habitat under section 3(5)(A) as: “(i) the specific areas within the geographical area occupied by the species, at the time it is listed . . . , on which are found those physical or biological features (I) essential to the conservation of the species and (II) which may require special management considerations or protection; and (ii) specific areas outside the geographical area occupied by the species at the time it is listed . . . upon a determination by the Secretary [of Commerce] that such areas are essential for the conservation of the species.”

Section 4(a) of the ESA precludes military land from designation, where that land is covered by an Integrated Natural Resource Management Plan that the Secretary has found in writing will benefit the listed species.

Section 4(b)(2) of the ESA requires us to designate critical habitat for threatened and endangered species “on the basis of the best scientific data available and after taking into consideration the economic impact, the impact on national security, and any other relevant impact, of specifying any particular area as critical habitat.” It grants the Secretary of Commerce (Secretary) discretion to exclude any area from critical habitat if he determines “the benefits of such exclusion outweigh the benefits of specifying such area as part of the critical habitat.” In adopting this provision, Congress explained that, “[t]he consideration and weight given to any particular impact is completely within the Secretary’s discretion.” H.R. No.95-1625, at 16-17 (1978). The Secretary’s discretion to exclude is limited, as he may not exclude areas that “will result in the extinction of the species.”

Once critical habitat is designated, section 7 of the ESA requires Federal agencies to ensure they do not fund, authorize, or carry out any actions that will destroy or adversely modify

that habitat. This requirement is in addition to the section 7 requirement that Federal agencies ensure their actions do not jeopardize the continued existence of listed species.

Methods and Criteria Used To Identify Specific Areas Eligible for Critical Habitat

In the following sections, we describe the relevant definitions and requirements in the ESA and our implementing regulations and the key methods and criteria used to prepare this proposed critical habitat designation. Discussion of the specific implementation of each item occurs within the species-specific sections. In accordance with section 4(b)(2) of the ESA and our implementing regulations (50 CFR 424.12), this proposed designation is based on the best scientific information available concerning the species' present and historical range, habitat, and biology, as well as threats to their habitat. In preparing this proposed designation, we reviewed and summarized current information on these species, including recent biological surveys and reports, peer-reviewed literature, NMFS status reviews, and the proposed and final rules to list these species. All of the information gathered to create this proposed rule has been collated and analyzed in three supporting documents: a Draft Biological Report (NMFS, 2013a); a Draft Economic Analysis (NMFS, 2013b); and a Draft Section 4(b)(2) Report (NMFS, 2013c). We used these reports to inform the identification of specific areas as critical habitat. We followed a five-step process in order to identify these specific areas: (1) Determine the geographical area occupied by the species at the time of listing, (2) identify physical or biological habitat features essential to the conservation of the species, (3) delineate specific areas within the geographical area occupied by the species on which are found the physical or biological features, (4) determine whether the features in a specific area may require special management considerations or protections, and (5) determine whether any unoccupied areas are essential for conservation. As described later, we did not identify any unoccupied areas that are essential for conservation.

Once we have identified specific areas, we then considered the economic impact, impact on national security, and any other relevant impacts. The Secretary has the discretion to exclude an area from designation if he determines the benefits of exclusion (that is, avoiding the impact that would result from designation), outweigh the benefits of designation based on the best available scientific and commercial information. Our evaluation and determinations are described in detail in the following sections, in addition to our consideration of military lands.

Geographical Area Occupied by the Species

In the status review and final ESA listing for each species, we identified a Puget Sound/Georgia Basin DPS for yelloweye rockfish, canary rockfish, and bocaccio (Drake et al. 2010; 75 FR 22276, April 28, 2010). Our review of the best available data confirmed that yelloweye rockfish, canary rockfish, and bocaccio occupy each of the major biogeographic basins of the Puget Sound/Georgia Basin (NMFS, 2013a). The range of the DPS includes portions of Canada; however, we cannot designate areas outside U.S. jurisdiction as critical habitat (50 CFR 424.12(h)). Puget Sound and Georgia Basin make up the southern arm of an inland sea located on the Pacific Coast of North America and connected to the Pacific Ocean by the Strait of Juan de Fuca. The term “Puget Sound proper” refers to the waters east of and including Admiralty Inlet. Puget Sound is a fjord-like estuary covering 2,331.8 sq mi (6,039.3 sq km) and has 14 major river systems and its benthic areas consist of a series of interconnected basins separated by relatively shallow sills, which are bathymetric shallow areas.

Physical or Biological Features Essential to Conservation

Agency regulations at 50 CFR 424.12(b) interpret the statutory phrase “physical or biological features essential to the conservation of the species.” The regulations state that these features include, but are not limited to, space for individual and population growth and for

normal behavior; food, water, air, light, minerals, or other nutritional or physiological requirements; cover or shelter; sites for breeding, reproduction, and rearing of offspring; and habitats that are protected from disturbance or are representative of the historical geographical and ecological distribution of a species. These regulations go on to emphasize that the agency shall focus on “primary constituent elements” within the specific areas considered for designation. The regulations state:

“Primary constituent elements may include, but are not limited to, the following: roost sites, nesting grounds, spawning sites, feeding sites, seasonal wetland or dryland, water quality or quantity, host species or plant pollinator, geological formation, vegetation type, tide, and specific soil types.”

Based on the best available scientific information regarding natural history and habitat needs, we developed a list of physical and biological features essential to the conservation of adult and juvenile yelloweye rockfish, canary rockfish, and bocaccio and relevant to determining whether proposed specific areas are consistent with the above regulations and the ESA section (3)(5)(A) definition of “critical habitat.” We do not currently have sufficient information regarding the habitat requirements of larval yelloweye rockfish, canary rockfish, and bocaccio to determine which features are essential for conservation, and thus are not proposing to designate critical habitat specifically for this life-stage. However, we will continue to investigate this issue and seek comment on it as part of this proposed rule. The physical or biological features essential to the conservation of yelloweye rockfish, canary rockfish, and bocaccio fall into major categories reflecting key life history phases:

Physical or Biological Features Essential to the Conservation of Adult Canary Rockfish and Bocaccio, and Adult and Juvenile Yelloweye Rockfish

Benthic habitats or sites deeper than 30m (98ft) that possess or are adjacent to areas of complex bathymetry consisting of rock and or highly rugose habitat are essential to conservation because these features support growth, survival, reproduction, and feeding opportunities by providing the structure for rockfish to avoid predation, seek food and persist for decades. Several attributes of these sites determine the quality of the habitat and are useful in considering the conservation value of the associated feature, and whether the feature may require special management considerations or protection. These attributes are also relevant in the evaluation of the effects of a proposed action in a section 7 consultation if the specific area containing the site is designated as critical habitat. These attributes include: (1) quantity, quality, and availability of prey species to support individual growth, survival, reproduction, and feeding opportunities, (2) water quality and sufficient levels of dissolved oxygen to support growth, survival, reproduction, and feeding opportunities, and (3) the type and amount of structure and rugosity that supports feeding opportunities and predator avoidance.

Physical and Biological Features Essential to the Conservation of Juvenile Canary Rockfish and Bocaccio

Juvenile settlement habitats located in the nearshore with substrates such as sand, rock and/or cobble compositions that also support kelp (families Chordaceae, Alariaceae, Lessoniaceae, Costariaceae, and Laminariceae) are essential for conservation because these features enable forage opportunities and refuge from predators and enable behavioral and physiological changes needed for juveniles to occupy deeper adult habitats. Several attributes of these sites determine the quality of the area and are useful in considering the conservation value of the associated feature and, in determining whether the feature may require special management considerations or protection. These features also are relevant to evaluating the

effects of a proposed action in a section 7 consultation if the specific area containing the site is designated as critical habitat. These attributes include: (1) quantity, quality, and availability of prey species to support individual growth, survival, reproduction, and feeding opportunities; and (2) water quality and sufficient levels of dissolved oxygen to support growth, survival, reproduction, and feeding opportunities.

Specific Areas within the Geographical Area Occupied by the Species

After determining the geographical area of the Puget Sound/Georgia Basin occupied by adult and juvenile yelloweye rockfish, canary rockfish, and bocaccio, and the physical and biological features essential to their conservation, we next identified the specific areas within the geographical area occupied by the species that contain the essential features. The U.S. portion of Puget Sound/Georgia Basin that is occupied by yelloweye, canary, and bocaccio can be divided into five biogeographic basins or areas based on the presence and distribution of adult and juvenile rockfish, geographic conditions, and habitat features (Figure 1). These five interconnected areas are: (1) The San Juan/Strait of Juan de Fuca Basin, (2) Main Basin, (3) Whidbey Basin, (4) South Puget Sound, and (5) Hood Canal (Drake et al., 2010, NMFS 2013a). These interconnected basins are separated by relatively shallow sills. The configuration of sills and deep basins results in the partial recirculation of water masses in the Puget Sound and the retention of contaminants, sediment, and biota (Strickland, 1983). The sills largely define the boundaries between the basins and contribute to the generation of relatively fast water currents during portions of the tidal cycle. The sills, in combination with bathymetry, freshwater input, and tidal exchange, influence environmental conditions such as the movement and exchange of biota from one region to the next, water temperatures and water quality, and they also restrict water exchange (Ebbesmeyer et al., 1984; Burns, 1985; Rice, 2007). In addition, each basin

differs in biological condition; depth profiles and contours; sub-tidal benthic, intertidal habitats; and shoreline composition and condition (Downing, 1983; Ebbesmeyer et al., 1984; Burns, 1985; Rice, 2007; Drake et al., 2010). These areas also meet the definition of specific areas under ESA section (3)(5)(A) because each one contains the essential physical and biological features for juvenile rearing and/or adult reproduction, sheltering, or feeding for yelloweye rockfish, canary rockfish, and bocaccio. We do not currently have sufficient information regarding the habitat requirements of larval yelloweye

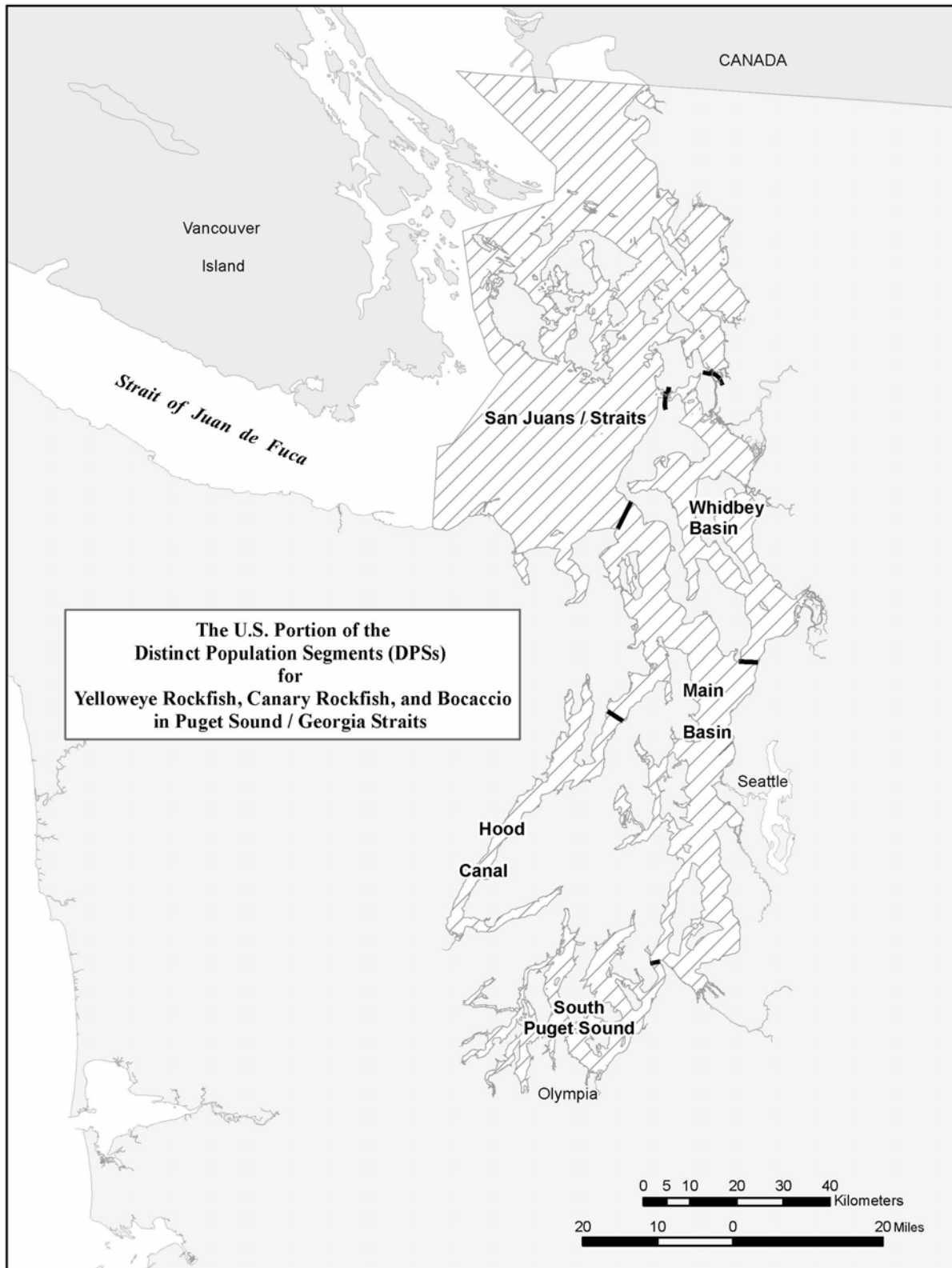


Figure 1. Basins of the U.S. portion rockfish DPS's.

rockfish, canary rockfish, and bocaccio to allow us to determine essential features specific to the larval life stage.

We considered the distribution of the essential features within these areas. We used available geographic data to delineate and map the essential features within each of the specific areas.

Delineating and Mapping Areas of Complex Bathymetry Deeper than 30 meters Containing Features Essential to the Conservation of Adult Canary, Yelloweye and Bocaccio Rockfish and Juvenile Yelloweye

To determine the distribution of essential features of benthic habitats deeper than 30 m (98 ft) with complex bathymetry, we relied on benthic habitat characterizations of each of the five basins of Puget Sound. We used the Benthic Terrain Model (BTM) developed by the NMFS Northwest Fisheries Science Center, which classifies terrain in all five basins (Davies, 2009). We also assessed recent benthic maps in the San Juan Basin (Greene and Barrie, 2011; Greene, 2012). We used these information sources to assess the presence of complex bathymetry in waters deeper than 30 m (98 ft).

The BTM is a collection of ArcGIS-based terrain visualization tools that can be used to examine the deepwater benthic environment using input bathymetric data sets. High resolution bathymetric data, most often obtained through acoustic means such as multibeam sonar mapping instruments, creates a digital representation of seafloor topography. The spatial analysis functions of a geographic information system (GIS) allow for the extraction of several derived products from bathymetric data, such as slope, bathymetric position, and rugosity. The BTM can also be used to classify data based on a combination of slope (a first-order derivative of bathymetry), and broad- and fine-scaled bathymetric position indices (Bathymetric Position

Index, second-order derivatives of bathymetry) describing the depth of a specific point relative to the surrounding bathymetry, and produces grid layers of terrain-based zones and structures. The BTM classifies benthic terrain at a 30 m (98 ft) grid scale in several categories that include flats, depressions, crests, shelves, and slopes, but does not delineate benthic substrate type. The BTM also provides a “rugosity” value, which is a measurement of variations or amplitude in the height of a surface—in this case, the seafloor (Kvitek et al., 2003; Dunn and Halpin, 2009). Rugosity values range from 0 (i.e., flat habitat) to 5.7 (very complex habitat). We refer to benthic areas with rugosity values of 1.005 or higher as “high rugosity.” We selected a rugosity value of 1.005 and higher as representing the presence of this essential feature because the spatial area mapped as proposed critical habitat at that level of rugosity encompassed the vast majority of the documented occurrences with precise spatial data of yelloweye rockfish (90%), canary rockfish (86%), and bocaccio (92%) within the DPSs (NMFS, 2013a). Rugosity values can be used as a surrogate for reef fish diversity when other data on habitats are lacking (Pittman et al. 2007). Similarly, areas of high rugosity have been used as an indicator of hard-bottomed habitat (Dunn and Halpin 2009).

In addition to the BTM, we used available benthic maps to assess rockfish habitat in the San Juan Basin. Unlike the rest of the basins of the Puget Sound, comprehensive seafloor characterization and mapping has occurred in most of the San Juan Archipelago and southern Georgia Strait (Greene and Barrie, 2011; Greene, 2012). This mapping was generated by multibeam and backscatter sonar surveys. These habitat maps provide information on the benthic terrain for most of the San Juan area, including specific benthic terrain types (i.e., “fractured bedrock” and “hummocky unconsolidated sediments”), which can be used to identify complex bathymetry.

We analyzed whether the BTM encompassed the rocky habitats of the San Juan Islands mapped by Green and Barrie (2011) and found just over 1 sq mi (1.6 sq km) was composed of rock but not identified as having rugosity values equal to or greater than 1.005 by the BTM. This is just 2 percent of the overall amount of rocky areas mapped by Green and Barrie (2011). This assessment served as verification that the BTM's rugosity values of equal to or greater than 1.005 encompass most rocky terrain in the San Juan Basin. In addition to the areas identified as high rugosity by the BTM, we concluded that the 2 percent of rocky areas in the San Juan Basin not characterized as high rugosity contain the essential features of rockfish critical habitat and were added to the final distribution map for this essential feature (NMFS, 2013a).

Delineating and Mapping Settlement Sites Containing Features Essential to the Conservation of Juvenile Canary and Bocaccio Rockfish

In delineating juvenile settlement sites in Puget Sound, we focused on the area contiguous with the shoreline from extreme high water out to a depth no greater than 30 meters relative to mean lower low water because this area coincides with the maximum depth of the photic zone in Puget Sound and thus, with appropriate substrates that can support the growth of kelp and rearing canary rockfish and bocaccio. To determine the distribution of essential features of nearshore habitats for juvenile canary rockfish and bocaccio, we used the Washington State Department of Natural Resources' (DNR) shorezone inventory (Berry, 2001) in combination with the benthic habitat classifications of the BTM related to the locations where moderate and large rivers enter Puget Sound (NMFS, 2013a).

The DNR shorezone habitat classifications are available for all of the shoreline within the ranges of the DPSs. We used the habitat characteristics described in the shorezone inventory to assist in determining if essential features for juvenile canary rockfish and bocaccio occur along

particular nearshore areas. The shorezone inventory was conducted by aerial visual surveys between 1994 and 2000 along all of Washington State's shorelines (Berry et al., 2001). The DNR subdivided beaches into units that are sections of beach with similar geomorphic characteristics. Within each unit, the DNR documented the presence of eelgrass or kelp, among other biological parameters. There are 6,856 shoreline segments in the range of the rockfish DPSs, ranging from 0.02 to 14 kilometers (0.01 to 8.7 mi) in length. The DNR delineated 15 different geomorphic shoreline types. The DNR's mapping of aquatic vegetation had limitations, because shoreline segments were observed by aerial surveys during different years and months. Aquatic vegetation growth, including kelp, is variable from month to month and year to year. Some kelp species are annuals, thus surveys that took place during non-growing seasons may have not mapped kelp beds where they actually occur. Non-floating kelp species in particular may have also been underestimated by the DNR survey methods because they were more difficult to document than floating kelp. In particular, all kelp species mapped were usually not visible to their lower depth limit because of poor visibility through the water column. While beds of vegetation may have been visible underwater, often it was not possible to determine what particular type of vegetation was present because of a lack of color characteristics. In addition, because floating kelp occurs in shallow waters, off-shore of the area visible from the aircraft, it was not mapped in many cases. For these reasons, the mapped kelp within the shorezone database represents an underestimation of the total amount of kelp along Puget Sound shorelines.

To determine which shorelines contained the essential features for juvenile canary rockfish and bocaccio, we reviewed their geomorphic classifications to see if they possessed "substrates such as sand, rock and/or cobble compositions." In addition, we assessed the relative

overlap of mapped kelp in these shoreline types. All but the “Estuary Wetland” and “Mud Flat” type shoreline segments had at least 20 percent of the segment with “continuous” or “sporadic” kelp mapped by DNR. The Estuary Wetland and Mud Flat type segments had very small portions of kelp (1.5 and 2.6 percent, respectively). We found that the Estuary Wetland and Mud Flat type shoreline segments longer than one-half lineal mile in length lack essential features for canary rockfish and bocaccio.

To assess nearshore estuaries and deltas of moderate and large rivers that enter Puget Sound, we used information from Burns (1983) and Teizeen (2012) to determine the location and annual flows of these rivers. These rivers input various volumes of sediment and fresh water into Puget Sound (Downing, 1983; Burns, 1985; Czuba et al., 2011) and profoundly influence local benthic habitat characteristics, salinity levels, and local biota. The nearshore areas adjacent to moderate-to-large river deltas are characterized by the input of fresh water and fine sediments that create relatively flat habitats (termed “shelves” by the BTM) that do not support the growth of kelp (NMFS, 2013a). In addition, the net outward flow of these deltas may prevent post-settlement juvenile canary rockfish or bocaccio from readily using these habitats. For these reasons we found that these nearshore areas do not contain the essential features of rearing sites for canary rockfish or bocaccio (juvenile yelloweye rockfish most commonly occupy waters deeper than the nearshore).

The DNR shorezone survey did not delineate the geomorphic extent of shoreline segments associated with estuaries and deltas. Thus we determined the geographical extent of these estuaries and shelves from the BTM “shelf” seafloor designation associated with the particular river because it indicates the geomorphic extension of the tidal and sub-tidal delta where fresh water enters Puget Sound. Not all of the shorelines associated with estuaries and

deltas were labeled as “estuary wetland” and “mud flat” by DNR, thus we delineated juvenile settlement sites located in the nearshore at the border of these deltas at either the geomorphic terminus of the delta at the 30 m (98 ft) contour, and/or at the shoreline segment mapped with kelp by the DNR. By doing this, we eliminated some of the other shorezone geomorphic shoreline types from proposed critical habitat designation because available information did not support the presence of essential features at some specific areas adjacent to moderate to large rivers (see NMFS, 2013a).

Special Management Considerations or Protection

An occupied area cannot be designated as critical habitat unless it contains physical or biological features that "may require special management considerations or protection." Agency regulations at 50 CFR 424.02(j) define “special management considerations or protection” to mean “any methods or procedures useful in protecting physical and biological features of the environment for the conservation of listed species.” Many forms of human activities have the potential to affect the essential features of listed rockfish species: (1) nearshore development and in-water construction (e.g., beach armoring, pier construction, jetty or harbor construction, pile driving construction, residential and commercial construction); (2) dredging and disposal of dredged material; (3) pollution and runoff; (4) underwater construction and operation of alternative energy hydrokinetic projects (tidal or wave energy projects) and cable laying; (5) kelp harvest; (6) fisheries; (7) non-indigenous species introduction and management; (8) artificial habitats; (9) research activities; and (10) aquaculture. All of these activities may have an effect on one or more physical or biological features via their potential alteration of one or more of the following: adult habitats, food resources, juvenile settlement habitat, and water quality. Further

detail regarding the biological and ecological effect of these species management considerations is found in the draft Biological Report (NMFS, 2013a).

Descriptions of Essential Features and Special Management Considerations in each Specific Area

We describe the five basins (the specific areas) of the Puget Sound below in terms of their biological condition and attributes, and full details are found in the biological report supporting this proposed designation (NMFS, 2013a). Each basin has different levels of human impacts related to the sensitivity of the local environment, and degree and type of human-derived impacts. We have also included examples of some of the activities that occur within these basins that affect the essential features such that they may require special management considerations or protection.

The San Juan/Strait of Juan de Fuca Basin — This basin is the northwestern boundary of the U.S. portion of the DPSs. The basin is delimited to the north by the Canadian border and includes Bellingham Bay, to the west by the entrance to the Strait of Juan de Fuca, to the south by the Olympic Peninsula and Admiralty Inlet, and to the east by Whidbey Island and the mainland between Anacortes and Blaine, Washington. The predominant feature of this basin is the Strait of Juan de Fuca, which is 99.4 mi (160 km) long and varies from 13.7 mi (22 km) wide at its western end to over 24.9 mi (40 km) wide at its eastern end (Thomson, 1994). Drake et al. (2010) considered the western boundary of the DPSs as the Victoria Sill because it is hypothesized to control larval dispersal for rockfish (and other biota) of the region. Water temperatures are lower and more similar to coastal marine waters than to Puget Sound proper, and circulation in the strait consists of a seaward surface flow of diluted seawater (<30.0 practical salinity units [psu]) in the upper layer and an inshore flow of saline oceanic water

(>33.0 psu) at depth (Drake et al., 2010). Water exchange in this basin has not been determined because, unlike the rest of the basins of the DPSs, it is more oceanic in character and water circulation is not nearly as constrained by geography and sills as it is in the other basins.

The San Juan/Strait of Juan de Fuca Basin has the most rocky shoreline and benthic habitats of the U.S. portion of the DPSs. Most of the basin's numerous islands have rocky shorelines with extensive, submerged aquatic vegetation and floating kelp beds necessary for juvenile canary rockfish and bocaccio settlement sites.

This basin also contains abundant sites deeper than 30 meters that possess or are adjacent to areas of complex bathymetry. Approximately 93 percent of the rocky benthic habitats of the U.S. portion of the range of all three DPSs are in this basin (Palsson et al., 2009). Plate tectonic processes and glacial scouring/deposition have produced a complex of fjords, grooved and polished bedrock outcrops, and erratic boulders and moraines along the seafloor of the San Juan Archipelago (Greene, 2012). Banks of till and glacial advance outwash deposits have also formed and contribute to the variety of relief and habitat within the basin. These processes have contributed to the development of benthic areas with complex bathymetry.

Yelloweye rockfish, canary rockfish, and bocaccio have been documented in the San Juan Archipelago, in addition to the southern portion of this basin along the Strait of Juan de Fuca (Washington, 1977; Moulton and Miller, 1987; Pacunski, 2013). The southern portion of this basin has several pinnacles that include Hein, Eastern, Middle, MacArthur, Partridge, and Coyote Banks. Yelloweye rockfish were once commonly caught by anglers along these areas, particularly Middle Bank (Olander, 1991).

As described in more detail in the biological report (NMFS, 2013a), there are several activities that occur in this basin that affect the essential features such that they may require

special management considerations. Commercial and recreational fisheries occur here, as well as scientific research. The highest concentration of derelict fishing nets in the DPSs remain here, including over 100 nets in waters deeper than 100 ft (30.5 m) (NRC, 2010), and an estimated 705 nets in waters shallower than 100 ft (30.5 m) (Northwest Straits Initiative, 2011). Because this basin has the most kelp in the DPSs, commercial harvest of kelp could be proposed for the San Juan Islands area. The Ports of Bellingham and Anacortes are located in this basin, and numerous dredging and dredge disposal projects and nearshore development, such as new docks, piers, and bulkheads occur in this basin. These development actions have the potential to alter juvenile settlement sites of canary rockfish and bocaccio. Two open-water dredge disposal sites are located in the basin, one in Rosario Strait and the other northwest of Port Townsend. These are termed dispersive sites because they have higher current velocities; thus, dredged material does not accumulate at the disposal site and settles on benthic environments over a broad area (Army Corps of Engineers, 2010). Sediment disposal activities in this specific area may temporarily alter water quality (dissolved oxygen levels) and feeding opportunities (the ability of juvenile rockfish to seek out prey). There are several areas with contaminated sediments along the eastern portion of this basin, particularly in Bellingham Bay and Guemes Channel near Anacortes.

Whidbey Basin — The Whidbey Basin includes the marine waters east of Whidbey Island and is delimited to the south by a line between Possession Point on Whidbey Island and Meadowdale, south of Mukilteo. The northern boundary is Deception Pass at the northern tip of Whidbey Island. The Skagit, Snohomish, and Stillaguamish Rivers flow into this basin and contribute the largest influx of freshwater inflow to Puget Sound (Burns, 1985). Water retention

is approximately 5.4 months due to the geography and sills at Deception Pass (Ebbesmeyer et al., 1984).

Most of the nearshore of the Whidbey Basin consists of bluff-backed beaches with unconsolidated materials ranging from mud and sand to mixes or gravels and cobbles (McBride 2006). Some of these nearshore areas support the growth of kelp. Some of the northern part of this basin is relatively shallow with moderately flat bathymetry near the Skagit, Stillaguamish and Snohomish River deltas and does not support kelp growth because it lacks suitable areas for holdfast attachment, such as rock and cobble.

Benthic areas in this basin contain sites deeper than 30 meters that possess or are adjacent to areas of complex bathymetry. The southern portion of the basin has more complex bathymetry compared to the north, with deeper waters adjacent to Whidbey Island, southern Camano Island, and near the City of Mukilteo.

Yelloweye rockfish, canary rockfish, and bocaccio have been documented in the Whidbey basin, with most occurrences within the southern portion near south Camano Island, Hat (Gedney) Island, and offshore of the City of Mukilteo. It is not known if the southern portion of the Whidbey basin has more attractive rockfish habitat compared to the northern portion, or if most documented occurrences are a reflection of uneven sampling effort over the years.

As described in more detail in the biological report, there are several activities that occur in this basin that affect the essential features such that they may require special management considerations. Activities include commercial and recreational fisheries, scientific research, dredging projects and dredge disposal operations, nearshore development projects, aquaculture and tidal energy projects. An estimated 18 derelict nets remain in waters shallower than 100 ft

(30.5 m) in this basin (Northwest Straits Initiative, 2011). A potential tidal energy site is located within the Deception Pass area, at the northern tip of Whidbey Island. Pollution and runoff are also concerns in this basin, mostly near the Port Gardner area. There are several areas with contaminated sediments along the eastern portion of this basin, particularly near the Cities of Mukilteo and Everett.

Main Basin — The 62.1 mi (100 km) long Main Basin is delimited to the north by a line between Point Wilson near Port Townsend and Partridge Point on Whidbey Island, to the south by Tacoma Narrows, and to the east by a line between Possession Point on Whidbey Island and Meadow Point. The sill at the border of Admiralty Inlet and the eastern Straits of Juan de Fuca regulates water exchange of Puget Sound (Burns, 1985). The Main Basin is the largest basin, holding 60 percent of the water in Puget Sound proper. Water retention is estimated to be one month due to the sills at Admiralty Inlet and Deception Pass (Ebbesmeyer et al., 1984).

Approximately 33 percent (439.3 mi (707 km)) of Puget Sound's shoreline occurs within this basin and nearshore habitats consist of bluff-backed beaches with unconsolidated materials ranging from mud and sand to mixes or gravels and cobbles (Drake et al., 2010). Some of these nearshore areas support the growth of kelp. Subtidal surface sediments in Admiralty Inlet tend to consist largely of sand and gravel, whereas sediments just south of the inlet and southwest of Whidbey Island are primarily sand. Areas deeper than 30 meters in the Main Basin have varying amounts of sites that possess or are adjacent to areas of complex bathymetry. Sediments in the deeper areas of the central portion of the Main Basin generally consist of mud or sandy mud (Bailey et al., 1998) and are generally not complex. Possession Point is centrally located within this basin at the southern end of Whidbey Island, and has relatively steep eastern, southern, and western edges and also has some rocky substrates (Squire and Smith, 1977). There are benthic

areas deeper than 98ft (30 m) along Possession Point, Admiralty Inlet and the rims of Puget Sound beyond the nearshore that feature complex bathymetry, with slopes and areas of high rugosity.

Yelloweye rockfish, canary rockfish, and bocaccio have been documented at Possession Point, near the port of Kingston and Apple Cove, and along much of the eastern shoreline of this basin (Washington, 1977; Moulton and Miller, 1987).

As described in more detail in the biological report, there are several activities that occur in this basin that affect the essential features such that they may require special management considerations. Activities include commercial and recreational fisheries, scientific research, dredging projects and dredge disposal operations, nearshore development projects, aquaculture and tidal energy projects. An estimated 75 derelict nets in waters shallower than 100 ft (30.5 m) remain in this basin (Northwest Straits Initiative, 2011). A planned tidal energy site is located within the Admiralty Inlet area off Whidbey Island. Pollution and runoff are also concerns in this basin because of extensive amounts of impervious surface located on its eastern side. Two open-water dredge disposal sites are located in the basin, one located in Elliot Bay and the other in Commencement Bay. These are non-dispersive disposal sites, which are areas where currents are slow enough that dredged material is deposited on the disposal target area rather than dispersing broadly with prevailing currents (Army Corps of Engineers, 2010). An estimated 36 percent of the shoreline in this area has been modified by human activities (Drake et al., 2010) and bulkhead/pier repair projects and new docks/piers are proposed regularly in this basin. There are several areas with contaminated sediments in this basin, particularly in Elliot Bay, Sinclair Inlet, and Commencement Bay.

South Puget Sound — This basin includes all waterways south of Tacoma Narrows, and is characterized by numerous islands and shallow (generally <65ft (20 m)) inlets with extensive shoreline areas. The sill at Tacoma Narrows restricts water exchange between the South Puget Sound and the Main Basin and water retention is an estimated 1.9 months (Ebbesmeyer et al., 1984). This restricted water exchange influences environmental characteristics of the South Puget Sound such as nutrient levels and dissolved oxygen, and perhaps its biotic communities (Ebbesmeyer et al., 1984; Rice, 2007).

Wide assortments of sediments are found in the nearshore and intertidal areas of this basin (Bailey et al., 1998). The most common sediments and the percent of the intertidal area they cover (with 95 percent confidence limits) are: mud, 38.3 ± 29.3 percent; sand, 21.7 ± 23.9 percent; mixed fine, 22.9 ± 16.1 percent; and gravel, 11.1 ± 4.9 percent. Subtidal areas have a similar diversity of surface sediments, with shallower areas consisting of mixtures of mud and sand and deeper areas consisting of mud (Puget Sound Water Quality Authority, 1987). The southern inlets of this basin include Oakland Bay, Totten Inlet, Bud Inlet and Eld Inlet, in addition to the Nisqually River delta. These inlets have relatively muddy habitats that do not support essential nearshore features such as holdfasts for kelp, and rock and cobble areas for rearing juvenile canary rockfish and bocaccio. Despite the prevalence of muddy and sandy substrate in the southern portion of this basin, some of these nearshore areas support the growth of kelp and therefore contain juvenile settlement sites.

With a mean depth of 121 ft (37 m), this basin is the shallowest of the five basins (Burns 1985). Benthic areas deeper than 98 ft (30 m) occur in portions of the Tacoma Narrows and Dana Passage and around the rims of the basin. Sediments in Tacoma Narrows and Dana

Passage consist primarily of gravel and sand. The rims of South Puget Sound beyond the nearshore feature complex bathymetry, with slopes and areas of high rugosity.

Yelloweye rockfish, canary rockfish, and bocaccio have been documented within the South Puget Sound (NMFS, 2013a). Canary rockfish may have been historically most abundant in the South Sound (Drake *et al.*, 2010).

As described in more detail in the biological report, there are several activities that occur in this basin that affect the essential features such that they may require special management considerations. Activities include commercial and recreational fisheries, scientific research, dredging and dredge disposal, nearshore development, pollution and runoff, aquaculture operations, and potential tidal energy projects. An estimated 4 derelict nets in waters shallower than 100 ft (30.5 m) remain in this basin (Northwest Straits Initiative, 2011). A non-dispersive dredge disposal site is located off Anderson/Ketron Island (Army Corps of Engineers, 2010). A potential tidal energy site is located in the Tacoma Narrows area. Important point sources of waste include sewage treatment facilities, and about 5 percent of the nutrients (as inorganic nitrogen) entering greater Puget Sound enter this basin through nonpoint sources (Embrey and Inkpen, 1998). An estimated 34 percent of the shoreline in this area has been modified by human activities (Drake *et al.*, 2010), and bulkhead/pier repair projects and new docks/piers are proposed regularly in this basin. The major urban areas, and thus more pollution and runoff into the South Puget Sound, are found in the western portions of Pierce County. Other urban centers in Southern Puget Sound include Olympia and Shelton. There are several areas with contaminated sediments in this basin in Carr Inlet and near Olympia.

Hood Canal— Hood Canal branches off the northwest part of the Main Basin near Admiralty Inlet and is the smallest of the greater Puget Sound basins, being 55.9 mi (90 km) long

and 0.6 to 1.2 mi (1 to 2 km) wide (Drake et al., 2010). Water retention is estimated at 9.3 months; exchange in Hood Canal is regulated by a 164-foot (50-meter) deep sill near its entrance that limits the transport of deep marine waters in and out of Hood Canal (Ebbesmeyer et al., 1984; Burns, 1985). The major components of this basin consist of the Hood Canal entrance, Dabob Bay, the central basin, and the Great Bend at the southern end. A combination of relatively little freshwater inflow, the sill at Admiralty Inlet, and bathymetry lead to relatively slow currents; thus, water residence time within Hood Canal is the longest of the biogeographic basins, with net surface flow generally northward (Ebbesmeyer et al., 1984).

The intertidal and nearshore zone consists mostly of mud (53.4 ± 89.3 percent of the intertidal area), with similar amounts of mixed fine sediment and sand (18.0 ± 18.5 percent and 16.7 ± 13.7 percent, respectively) (Bailey et al., 1998). Some of the nearshore areas of Hood Canal have cobble and gravel substrates intermixed with sand that support the growth of kelp. Surface sediments in the subtidal areas also consist primarily of mud and cobbles (Puget Sound Water Quality Authority, 1987). The shallow areas of the Great Bend, Dabob Bay, and the Hamma Hamma, Quilcene, Duckabusch, Dosewallips, Tahuya and Skokomish River deltas feature relatively muddy habitats that lack holdfasts for kelp, such as rock and cobble areas, and thus do not support kelp growth. Such areas thus lack the essential feature of juvenile settlement sites for juvenile canary rockfish and bocaccio.

Benthic areas deeper than 98 ft (30 m) occur along the rim of nearly all of Hood Canal, and these areas feature complex bathymetry, with slopes and areas of high rugosity.

Bocaccio have been documented in Hood Canal (NMFS, 2013a). Yelloweye and canary rockfish have also been documented at several locations and have been caught in relatively low numbers for the past several years (WDFW, 2011).

As described in more detail in the biological report, there are several activities that occur in this basin that affect the essential features such that they may require special management considerations. Activities in Hood Canal include commercial and recreational fisheries, scientific research, nearshore development, non-indigenous species management, aquaculture, and pollution and runoff. An estimated 81 derelict nets in waters shallower than 100 ft (30.5 m) remain in this basin (Northwest Straits Initiative, 2011). The unique bathymetry and low water exchange have led to episodic periods of low dissolved oxygen (Newton et al., 2007), though the relative role of nutrient input from humans in exacerbating these periods of hypoxia is in doubt (Cope and Roberts, 2012). Dissolved oxygen levels have decreased to levels that cause behavioral changes and kill some rockfish (i.e., below 1.0 mg/L (1 ppm)) (Palsson et al., 2008). An estimated 34 percent of the shoreline in this area has been modified by human activities (Drake et al., 2010), and bulkhead/pier repairs and new docks/piers are regularly proposed in this basin. The non-indigenous tunicate (Ciona savignyi) has been document at 86 percent of sites surveyed in Hood Canal (Drake et al., 2010), and may impact benthic habitat function that include rearing and settlement habitat for rockfish.

Depicting Proposed Critical Habitat with Maps

As previously described, we first used available geographic data to identify the locations of benthic sites with or adjacent to complex bathymetry and shoreline sites with sand, rock and/or cobble compositions that also support kelp, as described in more detail in the draft Biological Report (NMFS, 2013a). Once we identified these sites, we aggregated sites located in close proximity through Geographic Information Systems methods described in NMFS (2013a), consistent with the regulatory guidance regarding designation of an inclusive area for habitats in close proximity (50 CFR 424.12(d)).

The specific areas we identified are large and we relied on recent agency rulemaking to refine the designation and provide a critical habitat map that clearly delineates where the essential features are found within the specific areas. The agency recently amended its critical habitat regulations to state that instead of designating critical habitat using lines on a map, we will show critical habitat on a map, with additional information discussed in the preamble of the rulemaking and in agency records (50 CFR 424.12(c)), rather than requiring long textual description in the Code of Federal Regulations (CFR). In adopting this amendment to our regulations, we stated in response to comments:

[I]n instances where there are areas within a bigger area that do not contain the physical and biological features necessary for the conservation of the species, the Services would have the option of drawing the map to reflect only those parts of the area that do contain those features (77 FR 25611, May 1, 2012).

The maps we developed for the present designation conform to this new regulation. In addition, in agency records, and available on our website, we provide the GIS plot points used to create these maps, so interested persons may determine whether any place of interest is within critical habitat boundaries (<http://www.nwr.noaa.gov>).

Unoccupied Areas

Section 3(5)(A)(ii) of the ESA authorizes the designation of “specific areas outside the geographical area occupied at the time [the species] is listed” if these areas are essential for the conservation of the species. Regulations at 50 CFR 424.12(e) emphasize that the agency “shall designate as critical habitat areas outside the geographical area presently occupied by a species only when a designation limited to its present range would be inadequate to ensure the

conservation of the species.” We conducted a review of the documented occurrences of each listed rockfish in the five biogeographic basins of Puget Sound (NMFS, 2013a). We found that each of the basins is currently occupied by listed rockfish and our biological review did not identify any unoccupied areas that are essential to conservation and thus have not identified any unoccupied areas as candidates for critical habitat designation (NMFS, 2013a). However, we will continue to investigate this issue and seek comment on this issue as part of this proposed rule.

Section 3(5)(C) of the ESA provides that “[e]xcept in those circumstances determined by the Secretary, critical habitat shall not include the entire geographical area which can be occupied by the threatened or endangered species.” In this case we are proposing to designate all the specific areas that possess essential features that can be mapped (such as complex bathymetry in waters deeper than 30 meters, and nearshore areas such as sand, rock and/or cobble compositions that also support kelp) and as described above, we are only designating those portions of the specific areas that actually contain the essential features. We acknowledge that some listed rockfish have been documented to occur outside of the mapped areas that we propose to designate as critical habitat (NMFS, 2013a) and that larval listed rockfish could occur throughout the specific areas. Therefore, although each specific area contains habitat proposed for designation, we conclude that the proposed designation does not constitute “the entire geographical area which can be occupied” by the listed rockfish species.

Identifying Military Lands Ineligible for Designation

Section 4(a)(3) of the ESA precludes the Secretary from designating military lands as critical habitat if those lands are subject to an Integrated Natural Resource Management Plan (INRMP) under the Sikes Act that the Secretary certifies in writing benefits the listed species.

We consulted with the DOD and determined that there are several installations with INRMPs which overlap with marine habitats occupied by listed rockfish: (1) Joint base Lewis-McCord; (2) Manchester Fuel Department, (3) Naval Air Station Whidbey Island, (4) Naval Station Everett, and (5) Naval Station Kitsap.

We found that Naval Station Everett does not overlap with essential features for listed rockfish in the nearshore and thus the area covered by the INRMP is not proposed for critical habitat designation. We identified habitat meeting the statutory definition of critical habitat at all of the other installations and reviewed the INRMPs, as well as other information available, regarding the management of these military lands. Our preliminary review indicates that each of these INRMPs addresses listed rockfish habitat, and all contain measures that provide benefits to the listed rockfish DPSs. Examples of the types of benefits include actions that improve shoreline conditions, control erosion and water quality, prevention of and prompt response to chemical and oil spills, and monitoring of listed species and their habitats. As a result, we conclude that the areas identified with INRMPs are not eligible for critical habitat designation (see appendix c of NMFS, 2013c).

Summary of Areas Meeting the Definition for Proposed Critical Habitat Designation

We have determined that approximately 643.7 sq mi (1,665.5 sq km) of nearshore habitat for juvenile canary rockfish and bocaccio, and 610.1 sq mi (1,580.95 sq km) of deepwater habitat for yelloweye rockfish, canary rockfish, and bocaccio meet the definition of proposed critical habitat (Table 1).

TABLE 1. PHYSICAL AND BIOLOGICAL FEATURES AND MANAGEMENT CONSIDERATIONS
FOR YELLOWEYE ROCKFISH, CANARY ROCKFISH AND BOCACCIO IN AREAS
MEETING THE DEFINITION OF CRITICAL HABITAT.

DPS Basin	Nearshore Sq Mi. (for juvenile canary and bocaccio only)	Deepwater Sq Mi. (for adult and juvenile yelloweye rockfish, adult canary rockfish, and adult bocaccio)	Physical or Biological Features		Activities
San Juan/Strait of Juan de Fuca	352.2	298.98	Deepwater sites <30 meters) that support growth survival reproduction and feeding opportunities	Nearshore juvenile rearing sites with sand, rock and/or cobbles to support forage and refuge	1, 2, 3, 6, 9, 10
Whidbey Basin	51.44	41.47			1, 2, 3, 4, 6, 9, 10
Main Basin	145.75	179.74			1, 2, 3, 4, 6,7, 9, 10
South Puget Sound	73.72	40.12			1, 2, 3, 4, 6,7, 9, 10
Hood Canal	20	50.06			1, 2, 3, 6,7, 9, 10

Management Considerations Codes: (1) Nearshore development and in-water construction (e.g., beach armoring, pier construction, jetty or harbor construction, pile driving construction, residential and commercial construction); (2) dredging and disposal of dredged material; (3) pollution and runoff; (4) underwater construction and operation of alternative energy hydrokinetic projects (tidal or wave energy projects) and cable laying; (5) kelp harvest; (6) fisheries; (7) non-indigenous species introduction and management; (8) artificial habitats; (9) research; and (10) aquaculture. Commercial kelp harvest does not occur presently, but would

probably be concentrated in the San Juan/Georgia Basin. Artificial habitats could be proposed to be placed in each of the basins. Non-indigenous species introduction and management could occur in each basin.

Application of ESA Section 4(b)(2)

The foregoing discussion describes those areas that are eligible for designation as critical habitat – the specific areas that fall within the ESA section 3(5)(A) definition of critical habitat, not including lands owned or controlled by the DOD, or designated for its use, that are covered by an INRMP that the Secretary has determined in writing provides a benefit to the species. Specific areas eligible for designation are not automatically designated as critical habitat. As described above, Section 4(b)(2) of the ESA requires that the Secretary first consider the economic impact, impact on national security, and any other relevant impact. The Secretary has the discretion to exclude an area from designation if he determines the benefits of exclusion (that is, avoiding the impact that would result from designation), outweigh the benefits of designation based on the best available scientific and commercial information. The Secretary may not exclude an area from designation if exclusion will result in the extinction of the species. Because the authority to exclude is wholly discretionary, exclusion is not required for any areas.

The first step in conducting an ESA section 4(b)(2) analysis is to identify the “particular areas” to be analyzed. Section 3(5)(A) of the ESA defines critical habitat as “specific areas,” while section 4(b)(2) of the ESA requires the agency to consider certain factors before designating any “particular area.” Depending on the biology of the species, the characteristics of its habitat, and the nature of the impacts of designation, “specific” areas might be different from, or the same as, “particular” areas. For this designation, we identified the “specific” areas as (1) The San Juan/Strait of Juan de Fuca Basin, (2) Main Basin, (3) Whidbey Basin, (4) South Puget

Sound, and (5) Hood Canal. For our economic impact analysis we defined the “particular” areas as equivalent to the “specific” areas. This approach allowed us to most effectively consider the conservation value of the different areas when balancing conservation benefits of designation against economic benefits of exclusion. However, to assess impacts of designation on national security and Indian lands, we instead used a delineation of “particular” areas based on ownership or control of the area. These “particular” areas consisted of marine areas that overlap with designated military areas and Indian lands. This approach allowed us to consider impacts and benefits associated with management by the military or land ownership and management by Indian tribes.

Identify and Determining the Impacts of Designation

Section 4(b)(2) of the ESA provides that the Secretary shall consider “the economic impact, impact on national security, and any other relevant impact of specifying any particular area as critical habitat.” The primary impact of a critical habitat designation stems from the requirement under section 7(a)(2) of the ESA that Federal agencies ensure their actions are not likely to result in the destruction or adverse modification of critical habitat. Determining this impact is complicated by the fact that section 7(a)(2) contains the overlapping requirement that Federal agencies must ensure their actions are not likely to jeopardize the species’ continued existence. The true impact of designation is the extent to which Federal agencies modify their actions to ensure their actions are not likely to destroy or adversely modify the critical habitat of the species, beyond any modifications they would make because of listing and the jeopardy requirement for the species. Additional impacts of designation include state and local protections that may be triggered as a result of the designation.

In determining the impacts of designation, we assessed the incremental change in Federal agency actions as a result of critical habitat designation and the adverse modification prohibition, beyond the changes predicted to occur as a result of listing and the jeopardy provision. In August 2012 the USFWS and NOAA published a proposed rule to amend our joint regulations at 50 CFR 424.19 to make clear that in considering impacts of designation as required by Section 4(b)(2) we would consider the incremental impacts (77 FR 51503, August 24, 2012). This approach is in contrast to our 2005 critical habitat designations for salmon and steelhead (70 FR 52630, September 2, 2005) where we considered the “coextensive” impact of designation. The consideration of co-extensive impacts was in accordance with a Tenth Circuit Court decision (New Mexico Cattle Growers Association v. U.S. Fish and Wildlife Service, 248 F.3d 1277 (10th Cir. 2001)). More recently, several courts (including the 9th Circuit Court of Appeals) have approved an approach that considers the incremental impact of designation. The Federal Register notice (77 FR 5103, August 24, 2012) announcing the proposed policy on considering impacts of designation describes and discusses these court cases: Arizona Cattlegrowers’ Ass’n v. Salazar, 606 F3d 1160, 1172-74 (9th Cir. 2010), cert. denied, 131 S. Ct. 1471, 179 L. Ed. 2d 300 (2011); Homebuilders Ass’n v. FWS, 616 F3d 983, 991093j (9th Cir. 2010) cert. denied, 131 S. Ct. 1475, 179 L. Ed. 2d 301 (2011). The notice also discusses a Department of Interior Solicitor’s memo (M-3706 The Secretary’s Authority to Exclude Areas from Critical Habitat Designation Under 4(b)(2) of the Endangered Species Act (Oct. 3, 2008) (DOI 2008)). In more recent critical habitat designations, both NMFS and the USFWS have considered the incremental impact of critical habitat designation (for example, NMFS’ designation of critical habitat for the Southern DPS of green sturgeon (74 FR 52300, October 9, 2009) and the Southern DPS of

Pacific eulachon (76 FR 65324, October 20, 2011), and the U.S. Fish and Wildlife's designation of critical habitat for the Oregon chub (75 FR 11031, March 10, 2010)).

Consistent with our proposed regulatory amendments (77 FR 51503, August 24, 2012), the more recent court cases, and more recent agency practice, we estimated the incremental impacts of designation, beyond the impacts that would result from the listing and jeopardy provision. In addition, because these proposed designations almost completely overlap our previous salmonid, killer whale and green sturgeon critical habitat designations in Puget Sound, and the essential features defined for those species in previous designations are similar to those for listed rockfish (NMFS, 2013a), we estimated only the incremental impacts of designation beyond the impacts already imposed by those prior designations.

To determine the impact of designation, we examined what the state of the world would be with and without the designation of critical habitat for listed rockfish. The "without critical habitat" scenario represents the baseline for the analysis. It includes process requirements and habitat protections already afforded listed rockfish under their Federal listing or under other Federal, state, and local regulations. Such regulations include protections afforded listed rockfish habitat from other co-occurring ESA listings and critical habitat designations, such as those for Pacific salmon and steelhead (70 FR 52630, September 2, 2005), North American green sturgeon (74 FR 52300, October 9, 2009), Southern Resident Killer Whales (71 FR 69054, November 29, 2006), and bull trout (75 FR 63898, October 18, 2010) (see the Final Economic Analysis for listed rockfish (NMFS, 2013a) for examples of protections for other species that would benefit listed rockfish). The "with critical habitat" scenario describes the incremental impacts associated specifically with the designation of critical habitat for listed rockfish. The primary impacts of critical habitat designation we found were: (1) the economic costs associated

with additional administrative effort of including a critical habitat analysis in section 7 consultations for these three DPSs, (2) impacts to national security, and (3) the possible harm to our working relationship with Indian tribes and landowners and entities with conservation plans.

Economic Impacts

Our economic analysis sought to determine the impacts on land uses and other activities from the proposed designation of critical habitat, above and beyond – or incremental to – those “baseline” impacts due to existing or planned conservation efforts being undertaken due to other Federal, state, and local regulations or guidelines (NMFS, 2013b). Other Federal agencies, as well as state and local governments, may also seek to protect the natural resources under their jurisdiction. If compliance with the Clean Water Act or state environmental quality laws, for example, protects habitat for the species, such protective efforts are considered to be baseline protections and costs associated with these efforts are not quantified as impacts of critical habitat designation.

When critical habitat is designated, section 7 requires Federal agencies to ensure that their actions will not result in the destruction or adverse modification of critical habitat, in addition to ensuring that the actions are not likely to jeopardize the continued existence of the species. The added administrative costs of considering critical habitat in section 7 consultations and the additional impacts of implementing project modifications to protect critical habitat are the direct result of the designation of critical habitat. These costs are not in the baseline, and are considered incremental impacts of the rulemaking.

Incremental economic impacts may include the direct costs associated with additional effort for future consultations, reinitiated consultations, new consultations occurring specifically because of the designation, and additional project modifications that would not have been

required to avoid jeopardizing the continued existence of the species. Additionally, incremental economic impacts may include indirect impacts resulting from reaction to the potential designation of critical habitat (e.g., developing habitat conservation plans in an effort to avoid designation of critical habitat), triggering of additional requirements under State or local laws intended to protect sensitive habitat, and uncertainty and perceptual effects on markets.

To evaluate the potential administrative and project modification costs of designating critical habitat we examined our ESA section 7 consultation record for rockfish for the years 2010 and 2011. As further explained in the supporting economic report (NMFS, 2013b), to quantify the economic impact of designation, we employed the following three steps:

(1) Define the geographic study area for the analysis, and identify the units of analysis (the “particular areas”). In this case, we defined the five biogeographic basins of the Puget Sound/Georgia Basin that encompass occupied marine areas as the particular areas.

(2) Identify potentially affected economic activities and determine how management may increase due to the designation of listed rockfish critical habitat, both in terms of project administration and potential project modification.

(3) Estimate the economic impacts associated with both potential administrative costs and costs from project modifications. In this proposed critical habitat designation we did not identify potential systematic project modification costs (NMFS, 2013b).

We estimated that the additional effort to address adverse modification of critical habitat in a section 7 consultation is equivalent to one third of the effort already devoted to the consultation to consider the species. This is based on estimates of additional U.S. Fish and Wildlife Service effort for bull trout consultations in the Northwest, and which was considered relevant to the current critical habitat designation (NMFS, 2013b). That is, for every three hours

spent considering a jeopardy analysis for rockfish, an additional hour would be needed to consider rockfish critical habitat. Based on that assumption, we estimated a total annualized incremental administrative cost of approximately \$123,000 (discounted at 7 percent) for designating the five specific areas as listed rockfish critical habitat. The greatest costs are associated with nearshore work, transportation, water quality, and utilities (see NMFS, 2013b for more details). The estimated annual incremental costs across the five biogeographic basins range from \$32,100 in the San Juan/Strait of Juan de Fuca Basin to \$10,200 in Hood Canal (NMFS, 2013b).

For the second category of impacts, we consider it unlikely there will be incremental costs for project modifications specific to rockfish critical habitat for most individual project types. This is because of the existing high level of protection afforded by previous salmonid, green sturgeon and killer whale critical habitat designations that have generally similar biological features, and the protections already afforded listed rockfish through the separate jeopardy analysis (see NMFS, 2013b for more details). The results of our economic analysis are discussed in greater detail in a separate report that is available for public review and comment (NMFS, 2013b).

Impacts to National Security

During preparations for the proposed designation we sent a letter to the DOD seeking information to better understand their activities taking place in areas owned or controlled by them and the potential impact of designating critical habitat in these areas. We received two letters from the DOD in response to our initial inquiry. A single letter from the U.S. Air Force and U.S. Army stated that these services did not foresee any adverse impacts to their national security or training missions from proposed rockfish critical habitat designations. The second

letter, from the U.S. Navy, identified 14 Restricted Areas, Operating Areas and Danger Zones within the range of listed rockfish in each of the five basins of the Puget Sound. The Navy confirmed that it uses all of these areas, and assessed the potential for critical habitat designation to adversely affect operations, testing, training, and other essential military activities. Of the 14 areas identified by the Navy, only one area is already designated as critical habitat for other ESA-listed species (southern resident killer whales). The Navy letter identified several aspects of potential impacts to national security from critical habitat designation and requested that areas owned or controlled by the Navy be excluded from designation. We had several conversations with the Navy subsequent to their letter to further understand their uses of the areas, concerns identified in their response letter, and any related habitat protections resulting from Navy policies and initiatives (NMFS, 2013c).

Other Relevant Impacts - Impacts to Tribal Sovereignty and Self-governance

During preparations for the proposed designation we sent a letter to Puget Sound Indian tribes, notifying them of our intent to propose critical habitat for listed rockfish. We identified several areas under consideration for critical habitat designation that overlap with Indian lands in each of the specific areas (Figures 2 and 3). The federally recognized tribes with lands potentially affected are the Lummi, Swinomish, Tulalip, Puyallup, Squaxin Island, Skokomish, Port Gamble, and Port Madison. In addition to the economic impacts described above, designating these tribes' Indian lands would have an impact on Federal policies promoting tribal sovereignty and self-governance. The longstanding and distinctive relationship between the Federal and tribal governments is defined by treaties, statutes, executive orders, secretarial orders, judicial decisions, and agreements, which differentiate tribal governments from the other entities that deal with, or are affected by, the U.S. Government. This relationship has given rise

to a special Federal trust responsibility involving the legal responsibilities and obligations of the U.S. toward Indian tribes with respect to Indian lands, tribal trust resources, and the exercise of tribal rights. Pursuant to these authorities, lands have been retained by Indian tribes or have been set aside for tribal use. These lands are managed by Indian tribes in accordance with tribal goals and objectives within the framework of applicable treaties and laws.

Tribal governments have a unique status with respect to salmon, steelhead, and other marine resources in the Pacific Northwest, where they are co-managers of these resources throughout the region. The co-manager relationship crosses tribal, federal, and state boundaries, and addresses all aspects of the species' life cycle. The positive working relationship between the federal government and tribes can be seen in federal-tribal participation within the U.S. v. Oregon and U.S. v. Washington framework and the participation of tribes on interstate (Pacific Fisheries Management Council) and international (Pacific Salmon Commission) management bodies. Additionally, there are innumerable local and regional forums and planning efforts in which the tribes are engaged with the federal government, including ESA section 6 species recovery grants to the tribes. While many of these activities currently concentrate on recovery of listed salmon and steelhead in Puget Sound, they nonetheless result in several benefits to habitats used by listed rockfish through the conservation of habitats and prey sources of rockfish (NMFS, 2013c).

Other Relevant Impacts - Impacts to Landowners/Entities with Contractual Commitments to Conservation

Section 10(a)(1)(B) of the ESA authorizes us to issue to non-Federal entities a permit for the incidental take of endangered and threatened species. This permit allows a non-Federal landowner/entity to proceed with an activity that is legal in all other respects, but that results in

the incidental taking of a listed species (i.e., take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity). The ESA specifies that an application for an incidental take permit (ITP) must be accompanied by a conservation plan, and specifies the content of such a plan. The purpose of such conservation plans is to describe and ensure that the effects of the permitted action on covered species are adequately minimized and mitigated, and that the action does not appreciably reduce the likelihood of the survival and recovery of the species. Conservation plans that cover habitat actions are common for terrestrial and freshwater species and can benefit species threatened by land use activities. Conservation plans that cover fisheries are less common and can benefit species and habitats threatened by fishing activities.

Conservation agreements with non-Federal landowners and other entities enhance species conservation by extending species' protections beyond those available through section 7 consultations. We have encouraged non-Federal landowners to enter into conservation agreements, based on a view that we can achieve greater species' conservation on non-Federal land through such partnerships than we can through coercive methods (61 FR 63854, December 2, 1996). In past critical habitat designations we have found there is a benefit to excluding some areas covered by conservation agreements when there was affirmative evidence that the conservation partner considered exclusion beneficial to our relationship and beneficial to implementation of the conservation agreement (e.g., for Pacific salmon 70 FR 52630, September 2, 2005). We considered the benefit of exclusion to be a conservation benefit to the affected species because of the enhanced implementation of the agreement and the incentive for others to enter into conservation agreements with us to further protect the species.

In the case of the listed rockfish species, there are two conservation agreements that partially or wholly overlap with proposed critical habitat. The first is with the Washington

Department of Natural Resources (WDNR) and covers geoduck harvest on lands managed by the department. The second is with the Washington Department of Fish and Wildlife (WDFW) and covers fisheries and research in Puget Sound that incidentally takes the listed rockfish and other listed species and may also affect rockfish habitat.

Determine Whether to Exercise the Discretion to Exclude

Benefits of critical habitat designation are those conservation benefits to the species, while benefits of exclusion result from avoiding the impacts of designation identified above. For the present designation, we decided to balance benefits of designation against benefits of exclusion because some impacts of designation implicate competing Federal values, such as national security and tribal sovereignty and self-governance (see NMFS, 2013c).

Benefits of Designation

The principal benefit of designating critical habitat is that ESA section 7 requires every Federal agency to ensure that any action it authorizes funds or carries out is not likely to result in the destruction or adverse modification of designated critical habitat. This complements the Section 7 provision that federal agencies ensure their actions are not likely to jeopardize the continued existence of a listed species. The requirement that agencies avoid adversely modifying critical habitat is in addition to the requirement that they avoid jeopardy to the species, thus the benefit of designating critical habitat is “incremental” to the benefit that comes with listing. Another possible benefit is that the designation of critical habitat can serve to educate the public regarding the potential conservation value of an area. Systematic analysis and delineation of important rockfish habitat has not been previously conducted in the Puget Sound, so designating critical habitat may focus and contribute to conservation efforts by clearly delineating areas that are important to species conservation.

Ideally the consideration and balancing of benefits would involve first translating all benefits into a common metric. Executive branch guidance from the Office of Management and Budget (OMB) suggests that benefits should first be monetized – converted into dollars. Benefits that cannot be monetized should be quantified (for example, numbers of fish saved). Where benefits can neither be monetized nor quantified, agencies are to describe the expected benefits (OMB, 2003).

It may be possible to monetize benefits of critical habitat designation for a threatened or endangered species in terms of willingness-to-pay (OMB, 2003). However, we are not aware of any available data at the scale of our designation (the five basins of Puget Sound Sound) that would support such an analysis for listed rockfish. In addition, section 4(b)(2) requires analysis of impacts other than economic impacts that are equally difficult to monetize, such as benefits to national security of excluding areas from critical habitat. In the case of rockfish designations, impacts to Northwest Indian tribes or to our program to promote voluntary conservation agreements are “other relevant” impacts that also may be difficult to monetize.

Because we could not monetize or quantify the conservation benefit of designating the particular areas, we qualitatively describe their conservation value to the listed species. The rockfish critical habitat we have identified consists of only five areas. Each area is a biogeographic basin that represents a unique ecological setting with unique habitats and biological communities. This diversity of habitats is important to maintaining long-term viability of the DPSs. Four of the five areas are also relatively spatially isolated in terms of water circulation and exchange of some biota. Although we lack detailed genetic information to confirm that this isolation has led to reproductive isolation among basins, it is likely that there is some degree of reproductive isolation and that the unique habitat conditions in each basin have

therefore resulted in important adaptations. The diversity this creates in the population, like the diversity in habitats, is important to long-term viability. These factors suggest that all of the populations and basins are important in maintaining the diversity and spatial structure of each DPS. Though we have not yet developed a recovery plan for these DPSs, it is likely that all five areas are important to recovery of the listed DPSs and therefore have high conservation value (NMFS, 2013a).

Balancing Economic Impacts

In our 2005 final and 2013 proposed critical habitat designations for salmon and steelhead, we balanced conservation benefits of designation against economic benefits of exclusion and excluded particular areas for many of the affected species. Our approach was informed by both biology and policy (78 FR 2725, January 14, 2013; 70 FR 52630, September 2, 2005). In deciding to balance benefits, we noted that salmon and steelhead are widely distributed and their range includes areas that have both high and low conservation value; thus, it may be possible to construct different scenarios for achieving conservation. We also noted Administration policy regarding regulations, as expressed in Executive Order 12866, which directs agencies to select regulatory approaches that “maximize net benefits,” and to “design regulations in the most cost-effective manner to achieve the regulatory objective.”

For the salmon and steelhead designations, we used a cost effectiveness approach in which we identified areas to consider for economic exclusion by balancing relative conservation value against relative economic impact. Where the relative conservation value of an area was lower than the relative economic impact, we considered the area eligible for exclusion. Relying on policies that promote conservation of threatened and endangered species in general and salmon in particular, we did not consider areas for exclusion if exclusion would significantly

impede conservation. We concluded that exclusion of high conservation value areas would significantly impede conservation and therefore we did not consider any high conservation value areas for exclusion for salmon and steelhead.

In considering economic exclusions for listed rockfish, we considered the following factors: (1) section 2 of the ESA provides that a purpose of the act is “to provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved.”; (2) in listing the three listed rockfish DPSs under the ESA, we concluded that degradation of rocky habitat, loss of eelgrass and kelp, introduction of non-native habitat-modifying species, and degraded water quality were all threats to the species. We also noted that rocky habitats are rare in Puget Sound and have been affected by or are threatened by derelict fishing gear, development, and construction and dredging activities; (3) as described above, there are only five habitat areas and all are of high conservation value; and (4) the economic impacts of designating any particular area are small (the largest impact is \$32,100 in the San Juan/Strait of Juan de Fuca Basin), as is the economic impact of designating the entire area (\$123,000).

For these reasons, we conclude that the economic benefit of excluding any of these particular areas does not outweigh the conservation benefit of designation. Therefore, none of the areas were eligible for exclusion based on economic impacts.

Balancing Impacts to Tribal Sovereignty and Self-determination

We balanced the conservation benefits to rockfish of designation against the benefits of exclusion for Indian lands in light of the unique Federal tribal relationship, the unique status of Indian lands, and the Federal policies promoting tribal sovereignty and self-determination, among others. Indian lands potentially affected by a critical habitat designation occur within the range of the listed rockfish and are specific to nearshore juvenile rearing sites for canary rockfish

and bocaccio. We are not proposing any nearshore areas of Puget Sound as critical habitat for yelloweye rockfish (NMFS, 2013a). There are eight tribes with Indian lands that overlap the proposed critical habitat in all five basins. Approximately 55.1 lineal miles of shoreline within reservation boundaries overlap with the nearshore component of proposed critical habitat.

The principal benefit of designating critical habitat is section 7's requirement that Federal agencies ensure their actions are not likely to result in adverse modification of that habitat. To understand the benefit of designating critical habitat on Indian lands, we considered the number of miles of shoreline affected, and the types of activities occurring there that would be likely to undergo a section 7 consultation along this relatively small amount of shoreline area. The types of activities occurring in these areas that would be likely to undergo a section 7 consultation include activities associated with: nearshore development, utilities, dredging, water quality projects, transportation, and other project types.

The benefit of excluding these areas is that Federal agencies acting on behalf of, funding, or issuing permits to the tribes would not need to reinitiate consultation on ongoing activities for which consultation has been completed. Reinitiation of consultation would likely require some commitment of resources on the part of the affected tribe. Moreover, in a reinitiated consultation, or in any future consultation, it is possible that tribes may be required to modify some of their activities to ensure the activities would not be likely to adversely modify the critical habitat (though given the small proportion of shoreline length with essential features, and tribal shoreline management this is unlikely). The benefits of excluding Indian lands from designation include: (1) the furtherance of established national policies, our Federal trust obligations, and our deference to the tribes in management of natural resources on their lands; (2) the maintenance of effective long-term working relationships to promote the conservation of

rockfish; (3) the allowance for continued meaningful collaboration and cooperation in scientific work to learn more about the conservation needs of the species; and (4) continued respect for tribal sovereignty over management of natural resources on Indian lands through established tribal natural resource programs. We also considered the degree to which the tribes believe designation will affect their participation in regional management forums and their ability to manage their lands.

Based on our consideration, and given the following factors, we concluded that the benefits to conservation of listed rockfish from full tribal participation in Puget Sound recovery efforts mitigates the potential loss of conservation benefits that could result from designation of tribal lands. With this mitigating conservation benefit in mind, we further concluded that the benefits to tribal governments, with whom the Federal government has a unique trust relationship, particularly with regard to land held by the Federal government in trust for the tribes, outweigh the conservation benefits of designation for listed rockfish (NMFS, 2013c).

The Indian lands specifically proposed for exclusion are those defined in the Secretarial Order 3206, including: (1) lands held in trust by the United States for the benefit of any Indian tribe; (2) land held in trust by the United States for any Indian tribe or individual subject to restrictions by the United States against alienation; (3) fee lands, either within or outside the reservation boundaries, owned by the tribal government; and, (4) fee lands within the reservation boundaries owned by individual Indians. Our consideration of whether these exclusions would result in extinction of listed rockfish is described below.

Balancing Impacts to Landowners/Entities with Contractual Commitments to Conservation

Our consideration of the WDNR and the WDFW conservation plans is described in detail in NMFS (2013c). We balanced the conservation benefits to rockfish of proposed critical habitat

against the benefits of exclusion (referring to the impacts of designation section above) of the areas covered in each conservation plan. Each plan covers several activities that may take listed species and harm habitats we propose as listed rockfish critical habitat in Puget Sound. Congress added section 10 to the ESA to encourage “creative partnerships between the private sector and local, state, and Federal agencies for the protection of endangered species and habitat conservation” (H.R. Rep. No. 835, 97th Congress, 2nd Session 31; Reprinted in 1982 U.S. Code Congressional and Administrative News 2807, 2831). If excluding areas from critical habitat designation promotes such conservation partnerships, such exclusions may have conservation benefits that offset the loss of conservation benefit that would have resulted from designation.

The covered areas of the WDNR conservation plan overlap with approximately 30,000 acres of nearshore proposed critical habitat for canary rockfish and bocaccio. The covered areas of the WDFW conservation plan overlap with the entire proposed critical habitat for yelloweye rockfish, canary rockfish, and bocaccio. The WDNR covered activities are geoduck research and harvest management. The WDFW covered activities are the management of recreational bottom fish fishing and commercial shrimp trawls. The types of activities occurring in these areas that would be likely to undergo a section 7 consultation include nearshore development, dredging, aquaculture operations, fisheries management, alternative energy projects and cable laying, and others (NMFS, 2013a).

In general, the benefits of designating the covered areas of each conservation plan is, that once critical habitat is designated, section 7(a)(2) of the ESA provides that Federal agencies must ensure any actions they authorize, fund, or carry out are not likely to result in the destruction or adverse modification of designated critical habitat. An additional benefit of inclusion is that a systematic analysis and delineation of important rockfish habitat has not been previously

conducted in the Puget Sound. Thus, for non-Federal activities occurring in the covered areas, designation may raise public awareness of habitats important to rockfish and encourage additional conservation measures and voluntary conservation agreements within the section 10 program. The benefits of designating areas covered by these two conservation plans may be less than what they would be on areas not covered by conservation plans because of the fact that the permit holder has put conservation measures in place through provisions of the plan. These measures provide protection when actions are allowed that could affect critical habitat (geoduck harvest and management by WDNR, and fisheries by WDFW). However, these conservation plans are unlike other land-based conservation plans in the Northwest (such as forestry conservation plans) because the WDNR and WDFW plans cover a small subset of potential actions that could be affected by future Federal actions in Puget Sound (i.e., Federal permits for nearshore development, fisheries that cause new derelict fishing nets, tidal energy or cable-laying, and others).

The benefits of excluding these covered areas from designation include the potential furtherance of our ongoing relationship with these entities; in particular, the potential that the exclusion of these areas may provide an incentive for other entities to seek conservation plans, and the general promotion of the section 10 conservation program. Conservation agreements on non-federally controlled areas of Puget Sound provide important benefits to listed species. Section 7 applies to only Federal agency actions. Its requirements protect listed fishes only when a Federal permit or funding is involved; thus, its reach is limited. Neither WDNR nor WDFW identified any potential impacts to our relationship or implementation of each conservation plan.

For each rockfish DPS we considered the areas each conservation plan covered and the types of Federal activities in those areas that would likely undergo section 7 consultation. We

also considered the degree to which the WDNR and WDFW believe the designation would affect the ongoing relationship that is essential to the continued successful implementation of the conservation plan and the extent to which exclusion provides an incentive to other entities.

Based on our consideration, and given the following factors, we concluded that the benefits of excluding the areas covered by each conservation plan do not outweigh the benefits of designation. We considered the following factors in reaching this conclusion: (1) the WDNR and WDFW did not identify any impacts to our ongoing relationship; (2) the WDNR and WDFW did not identify any impacts to their implementation of the existing conservation plans; and (3) the WDNR and WDFW conservation plans only cover a subset of activities that could affect rockfish critical habitat conducted by other entities such as private landowners, municipalities, and Federal agencies in the covered areas. Thus, designation would not impact our relationship with WDNR and WDFW nor harm the implementation of their conservation plans. In general, designation would benefit rockfish conservation by enabling section 7 consultations for activities not covered by each conservation plan to ensure adverse modification is avoided by Federal activities.

Balancing Impacts to National Security

Based on information provided by the three branches of the military on impacts to national security of potential critical habitat designations described above, we consulted with the DOD to better understand the potential impact of designating critical habitat at these sites. The DOD confirmed that all of the Areas are used by the Navy, and confirmed the potential for critical habitat designation to impact national security by adversely affect their ability to conduct operations, testing, training, and other essential military activities. The Navy letter identified several aspects of potential impacts from critical habitat designation that include the possible

prevention, restriction, or delay of training or testing exercises and delayed response time for ship deployments. We had several conversations with the Navy subsequent to their letter to further understand their uses of the Areas, concerns identified in their response letter, and any related habitat protections derived by Navy policies and initiatives. We also had further discussions with the Navy regarding the extent of the proposed designation associated with these sites. The Navy agreed to refine the delineation of offshore areas in Puget Sound where the Navy has established security zones. Similar to the salmonid critical habitat designation (NMFS, 2005) the Navy agreed that the military zone could be delineated in terms of the mean lower low tide without raising national security concerns at all but one site at Dabob Bay. Because many of the activities affecting rockfish in the nearshore zone are land-based, this refinement allowed us to retain most of the conservation benefit of designating nearshore areas as critical habitat while still retaining the benefit to national security of excluding offshore military areas (NMFS, 2013c).

We balanced the conservation benefits of designation to rockfish against the benefits of exclusion for Naval Areas as ultimately defined by the Navy in the Puget Sound/Georgia Basin. The Navy requested that 14 areas be excluded from critical habitat designation, including four in the San Juan/Strait of Juan de Fuca Basin, three in Hood Canal, two in the Whidbey Basin, four in the Main Basin, and one in South Puget Sound based on the impacts to national security. The factors we consider relevant to assessing the impact to national security and the benefits of exclusion include: (1) the percent of the military area that would be designated; and (2) the importance of the area activity to national security and likelihood an activity would need to be changed to avoid adverse modification.

The factors we consider relevant to assessing the benefits of designation to rockfish conservation include: (1) the percent of the nearshore and deepwater critical habitat that would be designated in that basin; (2) uniqueness and conservation role of the habitat in particular DOD area; (3) the likelihood that Navy activities would destroy or adversely modify critical habitat; and (4) the likelihood habitat would be adversely modified by other Federal or non-Federal activities, considering Navy protections (this factor considers the type and frequency of Navy actions that occur in each site and their potential effect on rockfish habitat features, which informs the benefit to conservation that would occur by a section 7 consultation that considers rockfish critical habitat).

All but the quantitative factors were given a qualitative rating of high, medium, or low (NMFS, 2013c). Based on our analysis, we recommend excluding 13 of the 14 areas requested by the Navy. We do not propose to exclude Operating Area R-6713 (Navy 3). This area is a polygon off the western side of Naval Air Station Whidbey Island (appearing on NOAA Chart 18400) which is used in conjunction with the restricted area under 33 CFR 334.1180 for surface vessel training activities. The total proposed excluded areas total approximately 33.1 nearshore sq mi and 35.6 deepwater sq mi of potential critical habitat.

Critical habitat is proposed in a narrow nearshore zone (from the extreme high tide datum down to mean lower low water (MLLW)) within Navy security zone areas that are not subject to an approved INRMP or associated with Department of Defense easements or rights-of-way with the exception of NAS Whidbey Island, Crescent Harbor and a small area of the Hood Canal and Dabob Bay Naval Non-Explosive Torpedo Testing Area. The following Department of Defense areas are proposed for exclusion:

(1) Small Arms Danger Zone off Western Side of Naval Air Station Whidbey Island and additional Accident Potential Zone restricted areas — In the waters located in the San Juan De Fuca Strait beginning on the beach of NAS Whidbey Island, Oak Harbor, Washington at latitude 48°19'20.00" N, longitude 122°42'6.92" W; thence southerly, along the mean high water mark, to latitude 48°17'41" N, longitude 122°43'35" W; thence southwesterly to latitude 48°17'23" N, longitude 122°45'14" W; thence northerly to latitude 48°20'00" N, longitude 122°44'00" W; thence easterly, landward to the point of origin. Accident Potential Zone Area No. 1 is bounded by a line commencing at latitude 48°20'57" N, longitude 122°40'39" W; thence to latitude 48°20'40" N, longitude 122°42'59" W; thence to latitude 48°21'19" N, longitude 122°43'02" W; thence to latitude 48°21'13" N, longitude 122°40'26" W; and thence along the shore line to the point of beginning. Accident Potential Zone Area No. 2 is bounded by a line commencing at latitude 48°21'53" N, longitude 122°40'00" W; thence to latitude 48°23'12" N, longitude 122°41'17" W; thence to latitude 48°23'29" N, longitude 122°40'22" W; thence to latitude 48°22'21" N, longitude 122°39'50" W; and thence along the shore line to the point of beginning.

(2) Strait of Juan de Fuca Naval Air-to-Surface Weapon Range Restricted Area — A circular area immediately west of Smith Island with a radius of 1.25 nautical mi having its center at latitude 48°19'11" N and longitude 122°54'12" W.

(3) Hood Canal and Dabob Bay Naval Non-Explosive Torpedo Testing Area — All waters of Hood Canal between latitude 47°46'00" N and latitude 47°42'00" W, exclusive of navigation lanes one-fourth nautical mile wide along the west shore and along the east shore south from the town of Bangor (latitude 47°43'28" N). All waters of Dabob Bay beginning at latitude 47°39'27" N, longitude 122°52'22" W; thence northeasterly to latitude 47°40'19" N, longitude 122°50'10" W; thence northeasterly to a point on the mean high water line at Takutsko

Pt.; thence northerly along the mean high water line to latitude 47°48'00" N; thence west on latitude 47°48'00" N to the mean high water line on the Bolton Peninsula; thence southwesterly along the mean high water line of the Bolton Peninsula to a point on longitude 122°51'06" W; thence south on longitude 122°51'06" W to the mean high water line at Whitney Pt.; thence along the mean water line to a point on longitude 122°51'15" W; thence southwesterly to the point of beginning. The nearshore from Tsuktsko Pt. 47°41'30.0" sec N latitude, 122°49'48" W longitude to the north at 47°50'0.0" sec N latitude, 122°47'30" W longitude.

(4) Admiralty Inlet Naval Restricted Area — This area begins at Point Wilson Light thence southwesterly along the coast line to latitude 48°07' N; thence northwesterly to a point at latitude 48°15'00" N longitude 123°00'00" W; thence due east to Whidbey Island; thence southerly along the coast line to latitude 48°12'30" N; thence southerly to the point of beginning.

(5) Port Gardner, Everett Naval Base, Naval Restricted Area — The waters of Port Gardner and East Waterway surrounding Naval Station Everett begin at a point near the northwest corner of Naval Station Everett at latitude 47°59'40" N, longitude 122°13'23.5" W and thence to latitude 47°59'40" N, longitude 122°13'30" W ; thence to latitude 47°59'20" N, longitude 122°13'33" W ; thence to latitude 47°59'13" N, longitude 122°13'38" W; thence to latitude 47°59'05.5" N, longitude 122°13'48.5" W; thence to latitude 47°58'51" N, longitude 122°14'04" W; thence to latitude 47°58'45.5" N, longitude 122°13'53" W; thence to latitude 47°58'45.5" N, longitude 122°13'44" W; thence to latitude 47°58'48" N, longitude 122°13'40" W; thence to latitude 47°58'59" N, longitude 122°13'30" W; thence to latitude 47°59'14" N, longitude 122°13'18" W (Point 11); thence to latitude 47°59'13" N, longitude 122°13'12" W; thence to latitude 47°59'20" N, longitude 122°13'08" W; thence to latitude 47°59'20" N,

longitude 122°13'02.5" W, a point upon the Naval Station's shore in the northeast corner of East Waterway.

(6) Hood Canal, Bangor Naval Restricted Areas — The Naval restricted area described in 33 CFR 334.1220 has two areas. Area No. 1 is bounded by a line commencing on the east shore of Hood Canal in relation to the property boundary and area No.2 compasses waters of Hood Canal with a 1,000 yard radius diameter from a central point. Area No. 1 is bounded by a line commencing on the east shore of Hood Canal at latitude 47°46'18" N longitude 122°42'18" W; thence to latitude 47°46'32" N, longitude 122°42'20" W; thence to latitude 47°46'38" N, longitude 122°42'52" W; thence to latitude 47°44'15" N, longitude 122°44'50" W; thence to latitude 47°43'53" N, longitude 122°44'58" W; thence to latitude 47 °43'17" N, longitude 122°44'49" W. Area 2 is waters of Hood Canal within a circle of 1,000 yards diameter centered on a point located at latitude 47°46'26" N, longitude 122°42'49" W.

(7) Port Orchard Naval Restricted Area — The Naval restricted area described in 33 CFR 334.1230 is shoreward of a line beginning at a point on the west shoreline of Port Orchard bearing 90° from stack (at latitude 47°42'01" N, longitude 122°36'54" W); thence 90°, approximately 190 yards, to a point 350 yards from stack; thence 165°, 6,000 yards, to a point bearing 179°, 1,280 yards, from Battle Point Light; thence westerly to the shoreline at latitude 47°39'08" N (approximate location of the Brownsville Pier).

(8) Sinclair Inlet Naval Restricted Areas — The Naval restricted area described in 33 CFR 334.1240 to include: Area No. 1 - All the waters of Sinclair Inlet westerly of a line drawn from the Bremerton Ferry Landing at latitude 47°33'48" N, longitude 122°37'23" W on the north shore of Sinclair Inlet and latitude 47°32'52" N, longitude 122°36'58" W on the south shore of Sinclair Inlet; and Area No. 2 - That area of Sinclair Inlet to the north and west of an area

bounded by a line commencing at latitude 47°33'43" N, longitude 122°37'31" W thence south to latitude 47°33'39" N, longitude 122°37'27" W thence southwest to latitude 47°33'23" N, longitude 122°37'45" W thence southwest to latitude 47°33'19" N, longitude 122°38'12" W thence southwest to latitude 47°33'10" N, longitude 122°38'19" W thence southwest to latitude 47°33'07" N, longitude 122°38'29" W thence west to latitude 47°33'07" N, longitude 122°38'58" W thence southwest to latitude 47°33'04" N, longitude 122°39'07" W thence west to the north shore of Sinclair Inlet at latitude 47°33'04.11" N, longitude 122°39'41.92" W.

(9) Dabob Bay, Whitney Point Naval Restricted Area — The Naval restricted area described in 33 CFR 334.1260 beginning at the high water line along the westerly shore of Dabob Bay at the Naval Control Building located at latitude 47°45'36" N and longitude 122°51'00" W. The western shoreline boundary is 100 yards north and 100 yards south from that point. From the north and south points, go eastward 2,000 yards into Dabob Bay. The eastern boundary is a virtual vertical line between the two points (200 yards in length).

(10) Carr Inlet, Naval Restricted Area — The Naval restricted area described in 33 CFR 334.1250 to include: the area in the Waters of Carr Inlet bounded on the southeast by a line running from Gibson Point on Fox Island to Hyde Point on McNeil Island, on the northwest by a line running from Green Point (at latitude 47°16'54" N, longitude 122°41'33" W) to Penrose Point; plus that portion of Pitt Passage extending from Carr Inlet to Pitt Island, and that portion of Hale Passage extending from Carr Inlet southeasterly to a line drawn perpendicular to the channel 500 yards northwesterly of the Fox Island Bridge.

(11) Port Townsend, Indian Island, Walan Point Naval Restricted Area — The Naval restricted area described in 33 CFR 334.1270 to include: the waters of Port Townsend Bay bounded by a line commencing on the north shore of Walan Point at latitude 48°04'42" N,

longitude 122°44'30" W; thence to latitude 48°04'50" N, longitude 122°44'38" W; thence to latitude 48°04'52" N, longitude 122°44'57" West; thence to latitude 48°04'44" N, longitude 122°45'12" W; thence to latitude 48°04'26" N, longitude 122°45'21" W; thence to latitude 48°04'10" N, longitude 122°45'15" W; thence to latitude 48°04'07" N, longitude 122°44'49" W; thence to a point on the Walan Point shoreline at latitude 48°04'16" N, longitude 122°44'37" W.

(12) NAS Whidbey Island, Crescent Harbor — The Navy did not provide a textual description of this Restricted Area.

(13) Puget Sound, Manchester Fuel Depot, Naval Restricted Areas — The waters of Puget Sound surrounding the Manchester Fuel Depot bounded by a line commencing along the northern shoreline of the Manchester Fuel Depot at latitude 47°33'55" N, longitude 122°31'55" W; thence to latitude 47°33'37" North, longitude 122°31'50" W; thence to latitude 47°33'32" N, longitude 122°32'06" W; thence to latitude 47°33'45.9" North, longitude 122°32'16.04" W, a point in Puget Sound on the southern shoreline of the Manchester Fuel Depot then back to the original point.

Exclusion Will Not Result in Extinction of the Species

Section 4(b)(2) of the ESA limits our discretion to exclude areas from designation if exclusion will result in extinction of the species. We do not propose to exclude any habitat areas based on economic impacts or 10(a)(1)(B) permits (conservation plans). We do propose to exclude 55.1 lineal mi (88.7 km) of marine habitat adjacent to Indian lands and a total of approximately 68.7 sq mi of marine habitat area (33.1 sq mi of nearshore, 35.6 sq mi of deepwater) controlled by the Navy as described above. We conclude that excluding Indian lands – and thereby furthering the federal government's policy of promoting respect for tribal sovereignty and self-governance – in addition to several areas controlled by the Navy, will not

result in extinction of listed rockfish. Listed rockfish habitat on Indian lands represents a small proportion of total area occupied by these DPSs, and the Tribes are actively engaged in fisheries management, habitat management and Puget Sound ecosystem recovery programs that benefit listed rockfish.

Listed rockfish habitat within areas controlled by the Navy represents approximately 5 percent of the nearshore area and approximately 5 percent of the deepwater area we determined to have essential features. In addition to the small size of these proposed exclusions, the Navy actively seeks to protect actions that would impact their mission and these protections provide ancillary protections to rockfish habitat by restricting actions that may harm the Navy mission and rockfish in the respective area (NMFS, 2013c). Thus the benefit of designating these areas as critical habitat would be reduced.

For the following reasons, we conclude that the exclusions described above, in combination, will not result in the extinction of the yelloweye rockfish, canary rockfish or bocaccio DPSs: (1) The proposed Indian land exclusions involve nearshore habitats that are already managed by the tribes for conservation; (2) The proposed Navy exclusions involve nearshore and deepwater habitats that are already afforded some protections by the Navy, and; (3) The extent of Indian lands exclusions and Navy exclusions are spread amongst each of the five biogeographic basins of Puget Sound, and cumulatively total a fraction of the overall habitats that have essential features for listed rockfish.

Proposed Critical Habitat Designation

In total we propose to designate approximately 610.0 sq mi of nearshore habitat for canary rockfish and bocaccio, and 574.8 sq mi of deepwater habitat for yelloweye rockfish, canary rockfish and bocaccio within the geographical area of the DPSs occupied by each species

(Figures 2 and 3). Aside from some deepwater areas proposed as critical habitat for rockfish in Hood Canal, all other proposed critical habitat overlaps with designated critical habitat for other species. Other co-occurring ESA-listed species with designated critical habitat that, collectively, almost completely overlap with proposed rockfish critical habitat include Pacific salmon (70 FR 52630, September 2, 2005), North American green sturgeon (74 FR 52300, October 9, 2009), Southern Resident Killer Whales (71 FR 69054, November 29, 2006), and bull trout (75 FR 63898, October 18, 2010). The areas proposed for designation are all within the geographical area occupied by the species and contain physical and biological features essential to the conservation of the species and that may require special management considerations or protection. No unoccupied areas were identified that are considered essential for the conservation of the species. All of the areas proposed for designation have high conservation value (NMFS, 2013a). As a result of the balancing process for some military areas and tribal lands described above, we are proposing to exclude from the designation small areas listed in Table 2 (see Figures 1 and 2 for locations of tribal lands). As a result of the balancing process for economic impacts described above, we conclude that the economic benefit of excluding any of these particular areas does not outweigh the conservation benefit of designation. Therefore none of the areas were eligible for exclusion based on economic impacts. As a result of the balancing process for areas covered by Conservation Plans we concluded that the benefits of excluding the areas covered by each conservation plan do not outweigh the benefits of designation (NMFS, 2013c). As a result of the balancing process for tribal areas we concluded that the benefits of excluding these areas outweigh the benefits of designation (NMFS, 2013c).

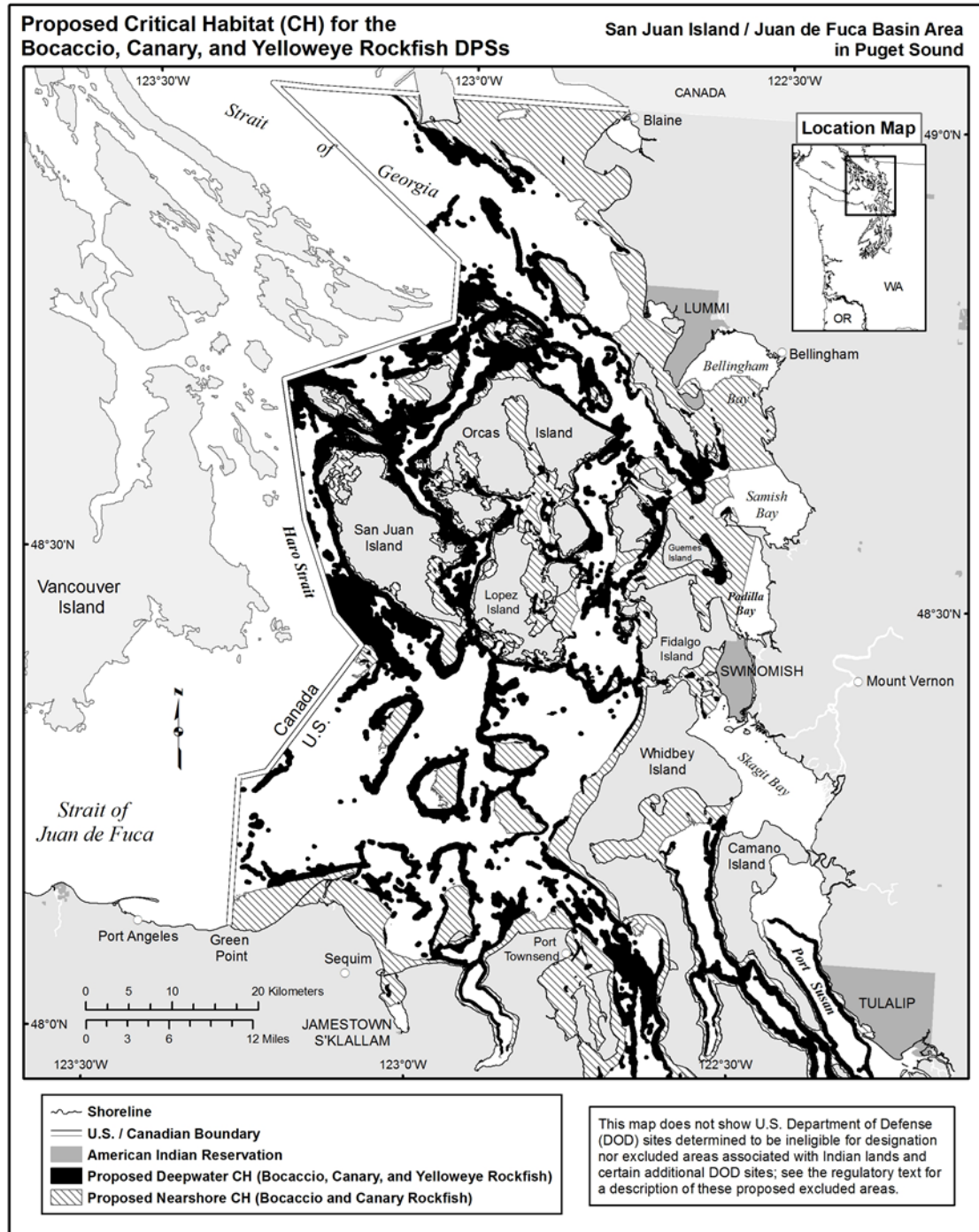


Figure 2. Proposed Critical Habitat for ESA-listed rockfish in the northern portion of the Puget Sound area.

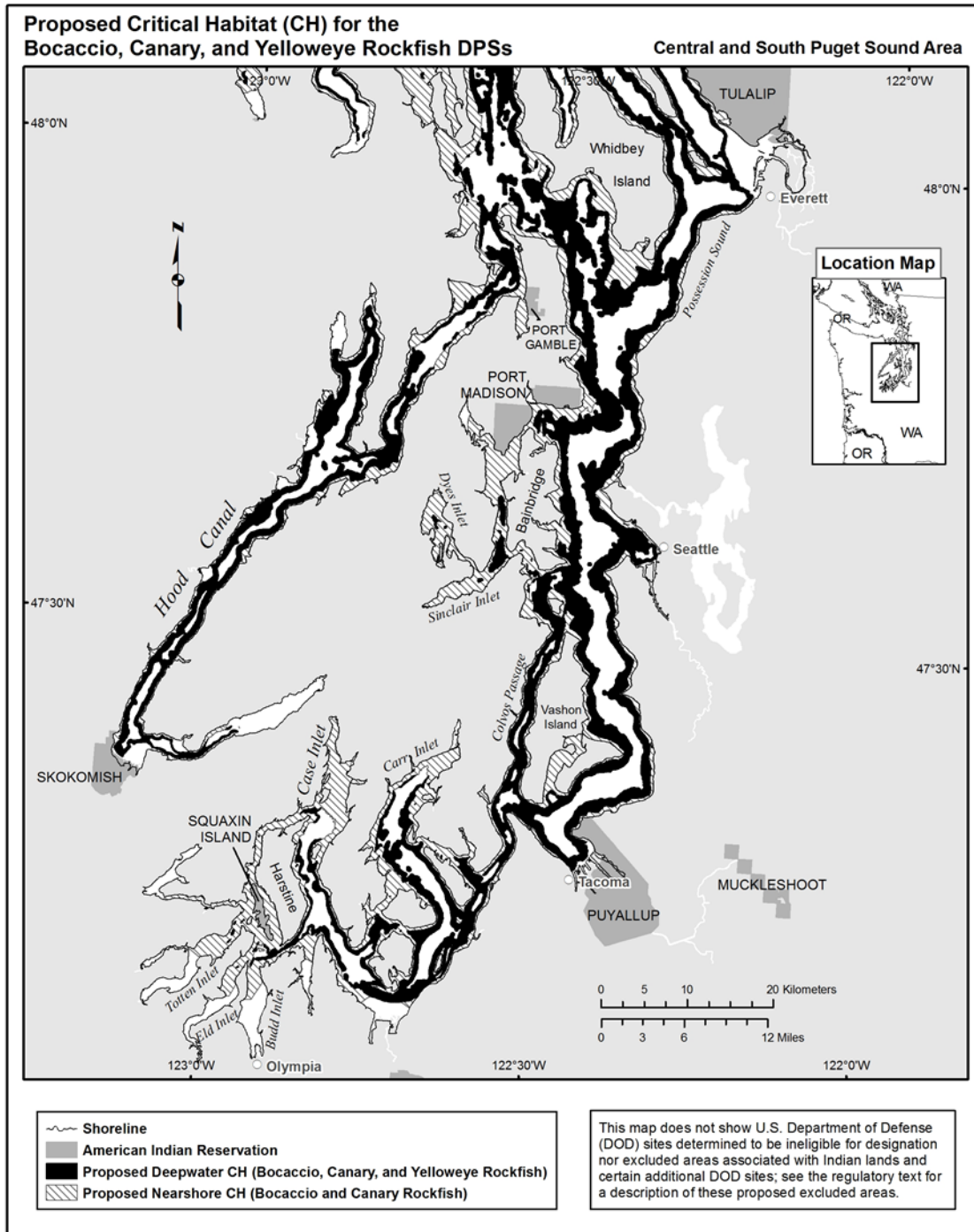


Figure 3. Proposed Critical Habitat for ESA-listed rockfish in the southern portion of the Puget Sound area.

On May 1, 2012, NMFS and the USFWS revised the critical habitat implementing regulations to eliminate the requirement to publish textual descriptions of proposed (NMFS only) and final (NMFS and USFWS) critical habitat boundaries in the Regulation Promulgation section of the Federal Register for codification and printing in the CFR (77 FR 25611, May 1, 2012). The regulations instead provide that the map(s), as clarified or refined by any textual language within the preamble of the proposed or final rule, constitutes the definition of the boundaries of a critical habitat (50 CFR 17.94(b), 226.101, 424.12(c), 424.16(b) and (c)(1)(ii), and 424.18(a)). The revised regulations provide that the boundaries of critical habitat as mapped or otherwise described in the Regulation Promulgation section of a rulemaking published in the Federal Register will be the official delineation of the designation (50 CFR 424.12). In this proposed designation we include some latitude-longitude coordinates (to delineate certain Department of Defense controlled boundaries) to provide clarity on the location of DOD areas proposed for exclusion but also rely on the maps to depict critical habitat for yelloweye rockfish, canary rockfish and bocaccio. The Geographical Information System data that the maps have been generated from are included in the administrative record located on our website.

Section 3(5)(A)(ii) of the ESA authorizes the designation of “specific areas outside the geographical area occupied at the time [the species] is listed” if these areas are essential for the conservation of the species. Regulations at 50 CFR 424.12(e) emphasize that the agency “shall designate as critical habitat areas outside the geographical area presently occupied by a species only when a designation limited to its present range would be inadequate to ensure the conservation of the species.” We conducted a review of the documented occurrences of each listed rockfish in the five biogeographic basins (NMFS, 2013a). We found that each of the

basins is currently occupied by yelloweye rockfish, canary rockfish, and bocaccio. We have not identified any unoccupied areas as candidates for critical habitat designation.

TABLE 2. HABITAT AREAS WITHIN THE GEOGRAPHICAL RANGE OF FOR YELLOWEYE ROCKFISH, CANARY ROCKFISH AND BOCACCIO PROPOSED FOR EXCLUSION FROM CRITICAL HABITAT.

Specific Area	Conservation Value	Total Annualized Estimated Economic Impacts (7%)	Economic Exclusions	DOD areas proposed exclusion from critical habitat	Indian Lands Exclusions Proposed by "particular areas"	Exclusions for Conservation Plan permit holders proposed
San Juan/ Straits of Juan de Fuca	High	\$32,100	No	Yes	Yes	No
Whidbey Basin	High	\$30,100	No	Yes	Yes	No
Main Basin	High	\$29,000	No	Yes	Yes	No
Hood Canal	High	\$10,200	No	Yes	Yes	No
South Puget Sound	High	\$21,200	No	Yes	Yes	No
Totals	na	\$123,000	na	35.6 sq mi deepwater 33.1 sq mi nearshore	55.1 lineal mi	na

Effects of Critical Habitat Designation

Section 7(a)(2) of the ESA requires Federal agencies to ensure that any action authorized, funded, or carried out by the agency (agency action) does not jeopardize the continued existence of any threatened or endangered species or destroy or adversely modify designated critical habitat. Federal agencies are also required to confer with us regarding any actions likely to jeopardize a species proposed for listing under the ESA, or likely to destroy or adversely modify proposed critical habitat, pursuant to section 7(a)(4). A conference involves informal discussions in which we may recommend conservation measures to minimize or avoid adverse effects. The discussions and conservation recommendations are to be documented in a conference report provided to the Federal agency. If requested by the Federal agency, a formal conference report may be issued (including a biological opinion prepared according to 50 CFR 402.14). A formal conference report may be adopted as the biological opinion when the species is listed or critical habitat designated, if no significant new information or changes to the action alter the content of the opinion.

When a species is listed or critical habitat is designated, Federal agencies must consult with NMFS on any agency actions to be conducted in an area where the species is present or that may affect the species or its critical habitat. During the consultation, we would evaluate the agency action to determine whether the action may adversely affect listed species or critical habitat and issue our findings in a biological opinion or concurrence letter. If we conclude in the biological opinion that the agency action would likely result in the destruction or adverse modification of critical habitat, we would also recommend any reasonable and prudent alternatives to the action. Reasonable and prudent alternatives (defined in 50 CFR 402.02) are alternative actions identified during formal consultation that can be implemented in a manner

consistent with the intended purpose of the action, that are consistent with the scope of the Federal agency's legal authority and jurisdiction, that are economically and technologically feasible, and that would avoid the destruction or adverse modification of critical habitat.

Regulations at 50 CFR 402.16 require Federal agencies that have retained discretionary involvement or control over an action, or where such discretionary involvement or control is authorized by law, to reinitiate consultation on previously reviewed actions in instances where: (1) critical habitat is subsequently designated; or (2) new information or changes to the action may result in effects to critical habitat not previously considered in the biological opinion. Consequently, some Federal agencies may request reinitiation of a consultation or conference with us on actions for which formal consultation has been completed, if those actions may affect designated critical habitat or adversely modify or destroy proposed critical habitat.

Activities subject to the ESA section 7 consultation process include activities on Federal lands and activities on private or state lands requiring a permit from a Federal agency (e.g., a Clean Water Act, Section 404 dredge or fill permit from U.S. Army Corps of Engineers) or some other Federal action, including funding (e.g., Federal Highway Administration funding for transportation projects). ESA section 7 consultation would not be required for Federal actions that do not affect listed species or critical habitat and for actions on non-Federal and private lands that are not Federally funded, authorized, or carried out.

Activities Affected by Critical Habitat Designation

ESA section 4(b)(8) requires in any proposed or final regulation to designate critical habitat an evaluation and brief description of those activities (whether public or private) that may adversely modify such habitat or that may be affected by such designation. A wide variety of activities may affect the proposed critical habitat and may be subject to the ESA section 7

consultation process when carried out, funded, or authorized by a Federal agency. These include water and land management actions of Federal agencies (e.g., the Department of Defense, U.S. Army Corps of Engineers (USACE), the Department of Defense, the Federal Energy Regulatory Commission, and the Environmental Protection Agency and related or similar federally regulated projects). Other actions of concern include dredging and filling, and bank stabilization activities authorized or conducted by the USACE, and approval of water quality standards and pesticide labeling and use restrictions administered by the EPA.

Private or non-Federal entities may also be affected by these proposed critical habitat designations if a Federal permit is required, if Federal funding is received or the entity is involved in or receives benefits from a Federal project. For example, private entities may need Federal permits to build or repair a bulkhead, or install an artificial reef. These activities will need to be evaluated with respect to their potential to destroy or adversely modify critical habitat for yelloweye rockfish, canary rockfish, or bocaccio of the Puget Sound/Georgia Basin.

Questions regarding whether specific activities will constitute destruction or adverse modification of critical habitat should be directed to NMFS (see ADDRESSES and FOR FURTHER INFORMATION CONTACT).

Public Comments Solicited

We solicit comments or suggestions from the public, other concerned governments and agencies, the scientific community, industry, non-governmental organizations, or any other interested party concerning the proposed designations and exclusions as well as the documents supporting this proposed rulemaking. We are particularly interested in comments and information in the following areas: (1) information describing the abundance, distribution, and habitat use of yelloweye rockfish, canary rockfish, and bocaccio of the Puget Sound/Georgia

Basin, including any unoccupied areas and habitats used by larval rockfish; (2) information on the identification, location, and the quality of physical or biological features that may be essential to the conservation of the species; (3) information regarding potential benefits of designating any particular area as critical habitat, including information on the types of Federal actions that may affect the area's physical and biological features; (4) information regarding potential impacts of designating any particular area, including the types of Federal actions that may trigger an ESA section 7 consultation and the possible modifications that may be required of those activities; (5) current or planned activities in the areas proposed as critical habitat and costs of potential modifications to those activities due to critical habitat designation; and (6) any foreseeable economic, national security, or other relevant impact resulting from the proposed designations.

You may submit your comments and materials concerning this proposal by any one of several methods (see ADDRESSES). Copies of the proposed rule and supporting documentation can be found on the NMFS website <http://www.nwr.noaa.gov>. In preparing the final rule, we will consider all comments pertaining to these designations received during the comment period; comments must be received by [insert date 90 days after date of publication in the FEDERAL REGISTER]. Accordingly, the final decision may differ from this proposed rule.

Public Hearings

Agency regulations at 50 CFR 424.16(c)(3) require the Secretary to promptly hold at least one public hearing if any person requests one within 45 days of publication of a proposed rule to designate critical habitat. Public hearings provide the opportunity for interested individuals and parties to give comments, exchange information and opinions, and engage in a constructive dialogue concerning this proposed rule. We encourage the public's involvement in

such ESA matters. Requests for a public hearing(s) must be made in writing (see ADDRESSES) by [insert date 45 days after date of publication in the FEDERAL REGISTER].

Information Quality Act and Peer Review

The data and analyses supporting this proposed action have undergone a pre-dissemination review and have been determined to be in compliance with applicable information quality guidelines implementing the Information Quality Act (IQA) (Section 515 of Public Law 106–554). In December 2004, OMB issued a Final Information Quality Bulletin for Peer Review pursuant to the IQA. The Bulletin was published in the Federal Register on January 14, 2005 (70 FR 2664). The Bulletin established minimum peer review standards, a transparent process for public disclosure of peer review planning, and opportunities for public participation with regard to certain types of information disseminated by the Federal Government. The peer review requirements of the OMB Bulletin apply to influential or highly influential scientific information disseminated on or after June 16, 2005. Two documents supporting these critical habitat proposals are considered influential scientific information and subject to peer review. These documents are the draft Biological Report (NMFS, 2013a) and draft Economic Analysis (NMFS, 2013b). We distributed the draft Biological Report for pre-dissemination peer review pursuant to Section 515 of Public Law 106-554, and will distribute the Economic Analysis for peer review. The peer review report is available on our website at <http://www.nwr.noaa.gov>. We will distribute the economic report for independent peer review and will address comments received in developing the final drafts of the two reports. Both documents are available on our website at <http://www.nwr.noaa.gov>, on the Federal eRulemaking website at <http://www.regulations.gov>, www.regulations.gov#!docketDetail;D=NOAA-NMFS-2013-0105, or upon request (see ADDRESSES). We will announce the availability of comments received

from peer reviewers (for the economic report) and the public and make them available via our website as soon as practicable during the comment period and in advance of a final rule.

Classification

Regulatory Flexibility Act (5 U.S.C. 601 et seq.)

Under the Regulatory Flexibility Act (5 U.S.C. 601 et seq., as amended by the Small Business Regulatory Enforcement Fairness Act of 1996), whenever an agency publishes a notice of rulemaking for any proposed or final rule, it must prepare and make available for public comment a regulatory flexibility analysis describing the effects of the rule on small entities (i.e., small businesses, small organizations, and small government jurisdictions). We have prepared an initial regulatory flexibility analysis, which is part of the draft economic analysis (NMFS, 2013b). This document is available upon request (see ADDRESSES), via our website at <http://nwr.noaa.gov>, or via the Federal eRulemaking website at www.regulations.gov/#!docketDetail;D=NOAA-NMFS-2013-0105. The results of the initial regulatory flexibility analysis are summarized below.

The impacts to small businesses were assessed for the following broad categories of activities: utilities, nearshore work, transportation, water quality and other activities. Small entities were defined by the Small Business Administration size standards for each activity type. We did not forecast any costs to small entities related to utilities projects because the only consultation associated with utilities are pre-consultation/technical assistance and programmatic consultations, which do not include any cost to third parties; therefore, we do not expect any impacts to small entities related to utilities.

We estimated the annualized costs associated with ESA section 7 consultations incurred per small business under a scenario intended to provide a measure of uncertainty regarding the

number of small entities that may be affected by the designations for each project category (NMFS, 2013c). It is uncertain whether small entities will be project proponents for these types of consultations, so the analysis conservatively assumes that all consultations will be undertaken by small entities, and that all such consultation will be formal. Under these assumptions, the costs to entities engaged in nearshore work are an estimated \$27,000 annually, or \$1,900 per entity. This cost represents less than 0.1 percent of annual revenues in this sector. The costs to entities engaged in transportation projects are an estimated \$46,000 annually, or \$7,700 for entities in this sector. This cost represents 0.29 percent of annual revenues. The costs to entities engaged in water quality projects is an estimated \$23,000 annually, or \$9,100 per entity. This cost represents 1.3 percent of annual revenues for entities in this sector. The costs for other entities, including fishing would be approximately \$18,000 annually, or \$2,600 per entity. This cost represents 1.1 percent of annual revenues for entities in this sector.

In accordance with the requirements of the Regulatory Flexibility Act (as amended by the Small Business Regulatory Enforcement Fairness Act of 1996) this analysis considered various alternatives to the critical habitat designations for these DPSs. The alternative of not designating critical habitat for these DPSs was considered and rejected because such an approach does not meet the legal requirements of the ESA. Executive Order 12866

At the guidance of OMB and in compliance with Executive Order 12866, “Regulatory Planning and Review,” Federal agencies measure changes in economic efficiency in order to understand how society, as a whole, will be affected by a regulatory action. Our draft analysis of economic impacts can be found in NMFS (2013b), and this proposed rule has been determined to be not significant under Executive Order 12866.

Executive Order 13211

On May 18, 2001, the President issued an executive order on regulations that significantly affect energy supply, distribution, and use. Executive Order 13211 requires agencies to prepare Statements of Energy Effects when undertaking any action that promulgates or is expected to lead to the promulgation of a final rule or regulation that (1) is a significant regulatory action under Executive Order 12866 and (2) is likely to have a significant adverse effect on the supply, distribution, or use of energy.

We have considered the potential impacts of this action on the supply, distribution, or use of energy and find the designation of critical habitat will not have impacts that exceed the thresholds identified above (NMFS, 2013b).

Unfunded Mandates Reform Act (2 U.S.C. 1501 et seq.)

In accordance with the Unfunded Mandates Reform Act, NMFS makes the following findings:

(a) This proposed rule will not produce a Federal mandate. In general, a Federal mandate is a provision in legislation, statute or regulation that would impose an enforceable duty upon state, local, tribal governments, or the private sector and includes both “Federal intergovernmental mandates” and “Federal private sector mandates.” These terms are defined in 2 U.S.C. 658(5)–(7). “Federal intergovernmental mandate” includes a regulation that “would impose an enforceable duty upon State, local, or tribal governments” with two exceptions. It excludes “a condition of Federal assistance.” It also excludes “a duty arising from participation in a voluntary Federal program,” unless the regulation “relates to a then-existing Federal program under which \$500,000,000 or more is provided annually to state, local, and tribal governments under entitlement authority,” if the provision would “increase the stringency of conditions of assistance” or “place caps upon, or otherwise decrease, the Federal

Government's responsibility to provide funding'' and the state, local, or tribal governments ''lack authority'' to adjust accordingly. (At the time of enactment, these entitlement programs were: Medicaid; Aid to Families with Dependent Children work programs; Child Nutrition; Food Stamps; Social Services Block Grants; Vocational Rehabilitation State Grants; Foster Care, Adoption Assistance, and Independent Living; Family Support Welfare Services; and Child Support Enforcement.)

''Federal private sector mandate'' includes a regulation that ''would impose an enforceable duty upon the private sector, except (i) a condition of Federal assistance; or (ii) a duty arising from participation in a voluntary Federal program.'' The designation of critical habitat does not impose a legally binding duty on non- Federal government entities or private parties. Under the ESA, the only regulatory effect is that Federal agencies must ensure that their actions do not destroy or adversely modify critical habitat under section 7. While non- Federal entities which receive Federal funding, assistance, permits or otherwise require approval or authorization from a Federal agency for an action may be indirectly impacted by the designation of critical habitat, the legally binding duty to avoid destruction or adverse modification of critical habitat rests squarely on the Federal agency. Furthermore, to the extent that non-Federal entities are indirectly impacted because they receive Federal assistance or participate in a voluntary Federal aid program, the Unfunded Mandates Reform Act would not apply; nor would critical habitat shift the costs of the large entitlement programs listed above to state governments.

(b) Due to the existing protection afforded to the proposed critical habitat from existing critical habitat for salmon (70 FR 52630, September 2, 2005), Southern DPS of green sturgeon (74 FR 52300, October 9, 2009), bull trout (70 FR 56212, September 26, 2005), and the southern resident killer whale (71 FR 69054, November 29, 2006), we do not anticipate that this proposed

rule will significantly or uniquely affect small governments. As such, a Small Government Agency Plan is not required

Takings

Under Executive Order 12630, Federal agencies must consider the effects of their actions on constitutionally protected private property rights and avoid unnecessary takings of property. A taking of property includes actions that result in physical invasion or occupancy of private property, and regulations imposed on private property that substantially affect its value or use. In accordance with Executive Order 12630, this proposed rule does not have significant takings implications. A takings implication assessment is not required. The designation of critical habitat affects only Federal agency actions. We do not expect the proposed critical habitat designations will impose additional burdens on land use or affect property values. Additionally, the proposed critical habitat designations do not preclude the development of Conservation Plans and issuance of incidental take permits for non-Federal actions. Owners of areas included within the proposed critical habitat designations would continue to have the opportunity to use their property in ways consistent with the survival of listed rockfish.

Federalism

In accordance with Executive Order 13132, we determined that this proposed rule does not have significant Federalism effects and that a Federalism assessment is not required. In keeping with Department of Commerce policies, we request information from, and will coordinate development of these proposed critical habitat designations with, appropriate state resource agencies in Washington. The proposed designations may have some benefit to state and local resource agencies in that the areas essential to the conservation of the species are more clearly defined, and the essential features of the habitat necessary for the survival of the subject

DPSs are specifically identified. It may also assist local governments in long-range planning (rather than waiting for case-by-case ESA section 7 consultations to occur).

Government-to-Government Relationship With Tribes

Pursuant to Executive Order 13175 and Secretarial Order 3206, we contacted the affected Indian Tribes when considering the designation of critical habitat in an area that may impact tribal trust resources, tribally owned fee lands or the exercise of tribal rights. The responding tribes expressed concern about the intrusion into tribal sovereignty that critical habitat designation represents. These concerns are consistent with previous responses from tribes when we developed critical habitat designations for salmon and steelhead in 2005 (70 FR 52630, September 2, 2005). The Secretarial Order defines Indian lands as “any lands title to which is either: (1) held in trust by the United States for the benefit of any Indian tribe or (2) held by an Indian Tribe or individual subject to restrictions by the United States against alienation.” Our conversations with the tribes indicate that they view the designation of Indian lands as an unwanted intrusion into tribal self-governance, compromising the government-to-government relationship that is essential to achieving our mutual goal of conserving threatened and endangered salmonids.

For the general reasons described in the Impacts to Tribal Sovereignty and Self-Governance section above, the draft ESA 4(b)(2) analysis has led us to propose the exclusion of all Indian lands in our proposed designations for yelloweye rockfish, canary rockfish, and bocaccio. Consistent with other proposed exclusions, any exclusion in the final rule will be made only after consideration of all comments received.

Civil Justice Reform

The Department of Commerce has determined that this proposed rule does not unduly burden the judicial system and meets the requirements of sections 3(a) and 3(b)(2) of Executive Order 12988. We are proposing to designate critical habitat in accordance with the provisions of the ESA. This proposed rule uses standard property descriptions and identifies the essential features within the designated areas to assist the public in understanding the habitat needs of yelloweye rockfish, canary rockfish, and bocaccio of the Puget Sound/Georgia Basin.

Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq.)

This proposed rule does not contain new or revised information collection requirements for which OMB approval is required under the Paperwork Reduction Act (PRA). This proposed rule will not impose recordkeeping or reporting requirements on state or local governments, individuals, businesses, or organizations. Notwithstanding any other provision of the law, no person is required to respond to, nor shall any person be subject to a penalty for failure to comply with, a collection of information subject to the requirements of the PRA, unless that collection of information displays a currently valid OMB Control Number.

National Environmental Policy Act of 1969 (NEPA)

We have determined that an environmental analysis as provided for under NEPA is not required for critical habitat designations made pursuant to the ESA. See Douglas County v. Babbitt, 48 F.3d 1495 (9th Cir. 1995), cert. denied, 116 S.Ct. 698 (1996).

Coastal Zone Management Act

Section 307(c)(1) of the Federal Coastal Zone Management Act of 1972 (16 U.S.C. 1456) requires that all Federal activities that affect the land or water use or natural resource of the coastal zone be consistent with approved state coastal zone management programs to the maximum extent practicable. We have determined that these proposed designations of critical

habitat are consistent to the maximum extent practicable with the enforceable policies of approved Coastal Zone Management Programs of Washington. The determination will be submitted for review by the responsible state agency.

References Cited

A complete list of all references cited in this proposed rulemaking can be found on our website at <http://www.nwr.noaa.gov/> and is available upon request from the NMFS office in Seattle, Washington (see ADDRESSES).

List of Subjects in 50 CFR Part 226

Endangered and threatened species.

Dated: July 30, 2013

Alan D. Risenhoover,

Director, Office of Sustainable Fisheries,

Performing the functions and duties of the Deputy Assistant Administrator for Regulatory Programs,

National Marine Fisheries Service.

For the reasons set out in the preamble, we propose to amend part 226, title 50 of the Code of Federal Regulations as set forth below:

PART 226–DESIGNATED CRITICAL HABITAT

1. The authority citation for part 226 continues to read as follows:

Authority: 16 U.S.C. 1533.

2. Add § 226.2124 to read as follows:

§ 226.2124 Critical habitat for the Puget Sound/Georgia Basin DPS of yelloweye rockfish (Sebastes ruberrimus), canary rockfish (S. pinniger), and bocaccio (S. paucispinus).

Critical habitat is designated in the following states and counties for the following DPSs as depicted in the maps below and described in paragraphs (a) through (d) of this section. The maps can be viewed or obtained with greater resolution (<http://www.nwr.noaa.gov/>) to enable a more precise inspection of proposed critical habitat for yelloweye rockfish, canary rockfish and bocaccio.

(a) Critical habitat is designated for the following DPSs in the following state and counties:

DPS	State-Counties
Yelloweye rockfish	Wa - San Juan, Whatcom, Skagit, Island, Clallam, Jefferson Snohomish, King, Pierce, Kitsap, Thurston, Mason
Canary rockfish	Wa - San Juan, Whatcom, Skagit, Island, Clallam, Jefferson Snohomish, King, Pierce, Kitsap, Thurston, Mason
Bocaccio	Wa - San Juan, Whatcom, Skagit, Island, Clallam, Jefferson Snohomish, King, Pierce, Kitsap, Thurston, Mason

(b) Critical habitat boundaries. In delineating nearshore (shallower than 30 m (98 ft)) areas in Puget Sound, we define proposed critical habitat for canary rockfish and bocaccio, as depicted in the maps below, as occurring from the shoreline from extreme high water out to a depth no greater than 30 m (98 ft) relative to mean lower low water. Deepwater proposed critical habitat for yelloweye rockfish, canary rockfish and bocaccio occurs in some areas, as depicted in the maps below, from depths greater than 30 m (98ft).

(c) Essential features for juvenile canary rockfish and bocaccio. Juvenile settlement habitats located in the nearshore with substrates such as sand, rock and/or cobble compositions that also support kelp are essential for conservation because these features enable forage opportunities and refuge from predators and enable behavioral and physiological changes needed for juveniles to occupy deeper adult habitats. Several attributes of these sites determine the quality of the area and are useful in considering the conservation value of the associated feature and, in determining whether the feature may require special management considerations or protection. These features also are relevant to evaluating the effects of a proposed action in a section 7 consultation if the specific area containing the site is designated as critical habitat. These attributes include quantity, quality, and availability of prey species to support individual growth, survival, reproduction, and feeding opportunities; and water quality and sufficient levels of dissolved oxygen to support growth, survival, reproduction, and feeding opportunities. Nearshore areas are contiguous with the shoreline from the line of extreme high water out to a depth no greater than 30 meters (98 ft) relative to mean lower low water.

(d) Essential features for adult canary rockfish and bocaccio, and adult and juvenile yelloweye rockfish. Benthic habitats or sites deeper than 30m (98ft) that possess or are adjacent to areas of complex bathymetry consisting of rock and or highly rugose habitat are essential to

conservation because these features support growth, survival, reproduction, and feeding opportunities by providing the structure for rockfish to avoid predation, seek food and persist for decades. Several attributes of these sites determine the quality of the habitat and are useful in considering the conservation value of the associated feature, and whether the feature may require special management considerations or protection. These attributes are also relevant in the evaluation of the effects of a proposed action in a section 7 consultation if the specific area containing the site is designated as critical habitat. These attributes include:

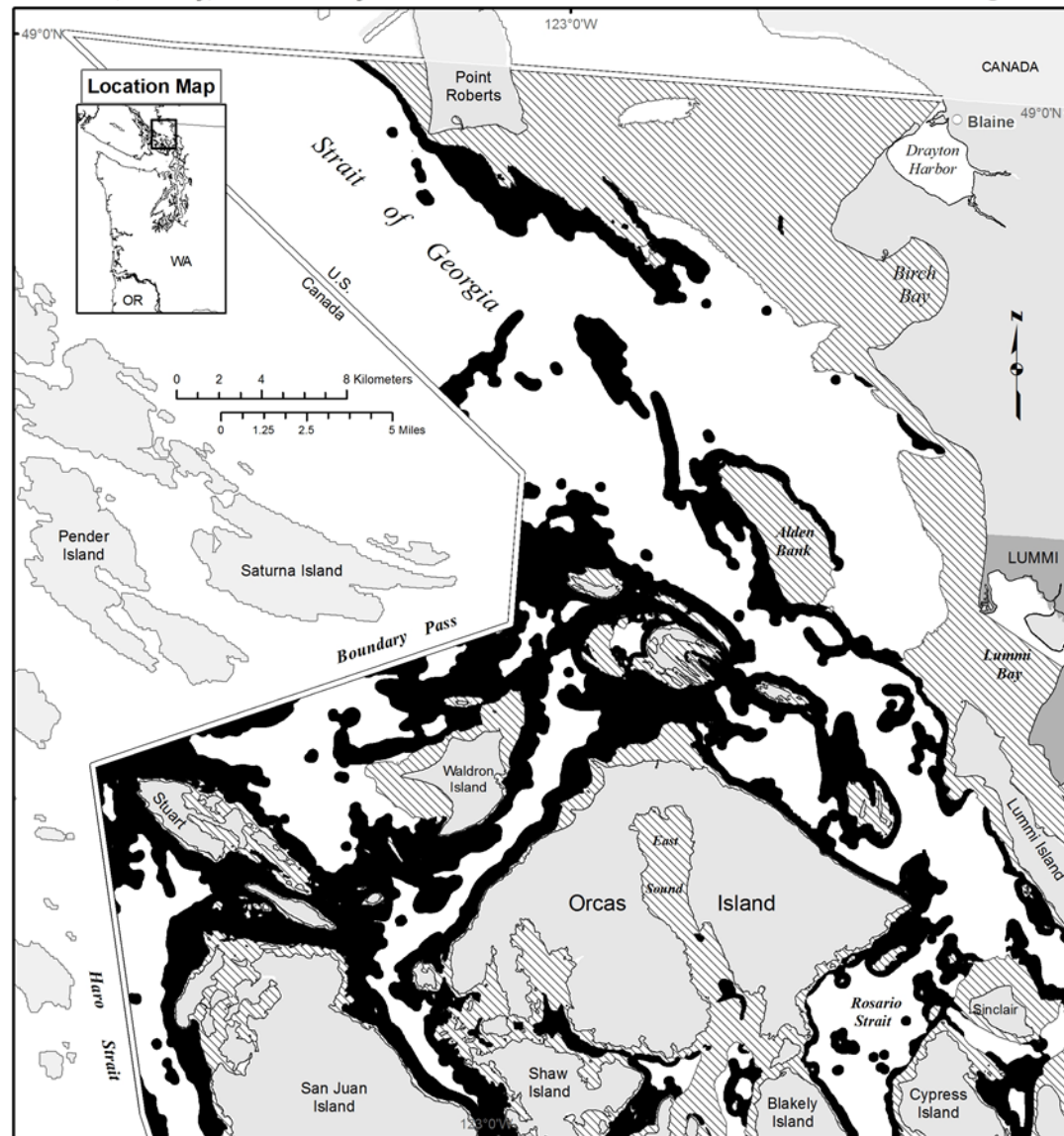
(1) quantity, quality, and availability of prey species to support individual growth, survival, reproduction, and feeding opportunities,

(2) water quality and sufficient levels of dissolved oxygen to support growth, survival, reproduction, and feeding opportunities, and

(3) the type and amount of structure and rugosity that supports feeding opportunities and predator avoidance.

Proposed Critical Habitat (CH) for the Bocaccio, Canary, and Yelloweye Rockfish DPSs

Strait of Georgia Area

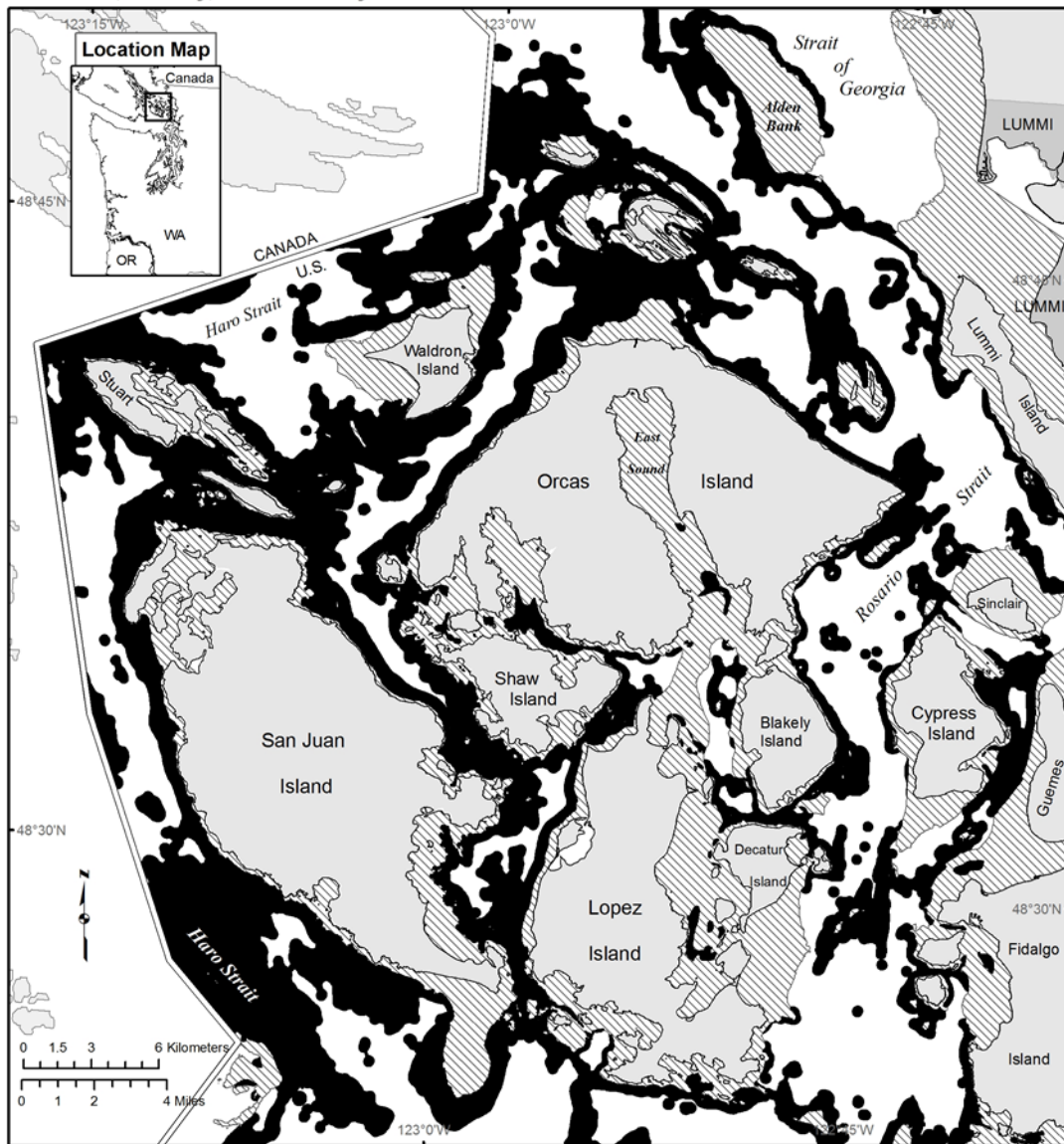


- U.S. / Canadian Boundary
- Shoreline
- American Indian Reservation
- ▨ Proposed Nearshore CH (Bocaccio and Canary Rockfish)
- Proposed Deepwater CH (Bocaccio, Canary, and Yelloweye Rockfish)

This map does not show U.S. Department of Defense (DOD) sites determined to be ineligible for designation nor excluded areas associated with Indian lands and certain additional DOD sites; see the regulatory text for a description of these proposed excluded areas.

**Proposed Critical Habitat (CH) for the
Bocaccio, Canary, and Yelloweye Rockfish DPSs**

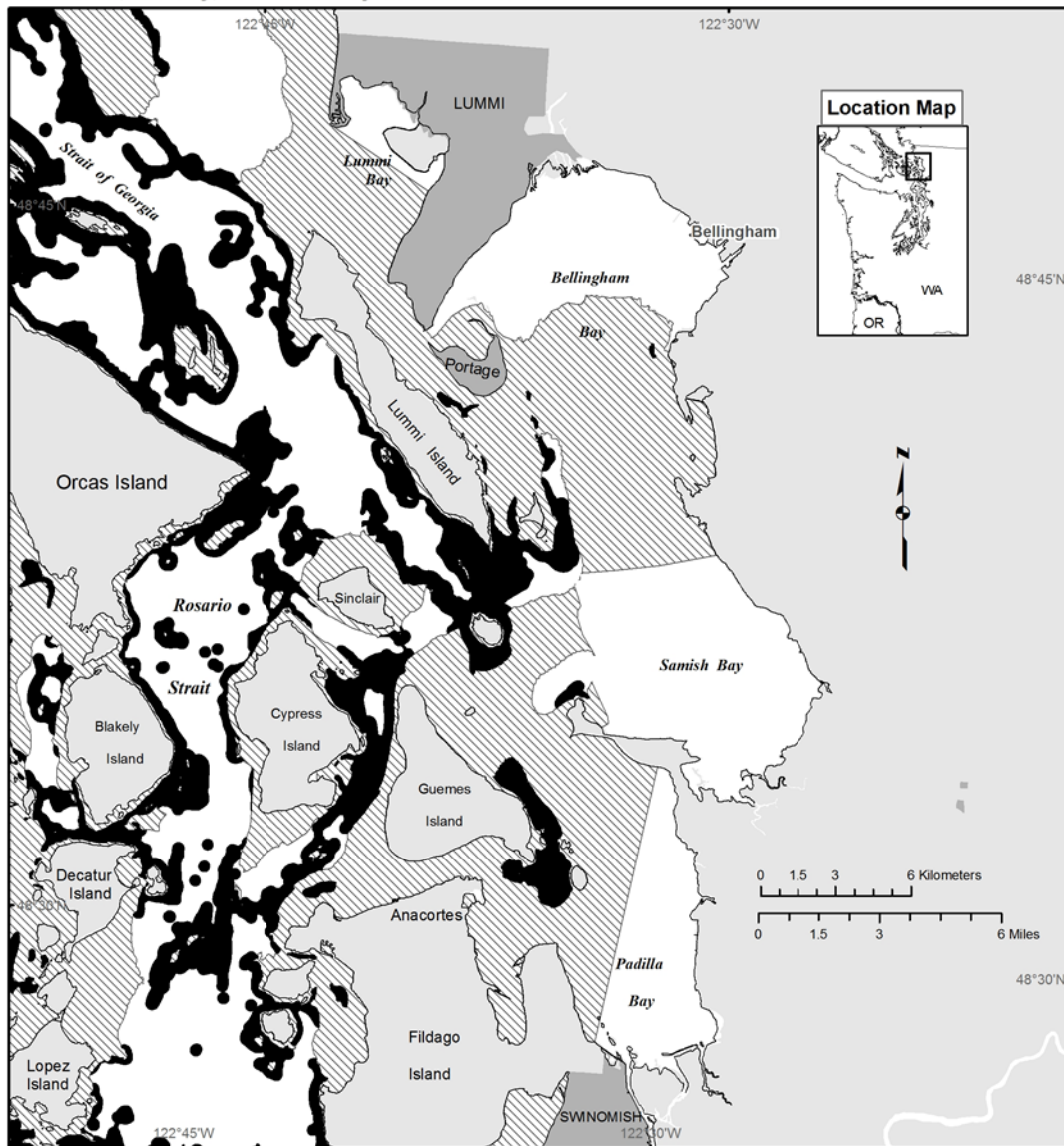
San Juan Islands Area



This map does not show U.S. Department of Defense (DOD) sites determined to be ineligible for designation nor excluded areas associated with Indian lands and certain additional DOD sites; see the regulatory text for a description of these proposed excluded areas.

**Proposed Critical Habitat (CH) for the
Bocaccio, Canary, and Yelloweye Rockfish DPSs**

Bellingham and Samish Bay Area

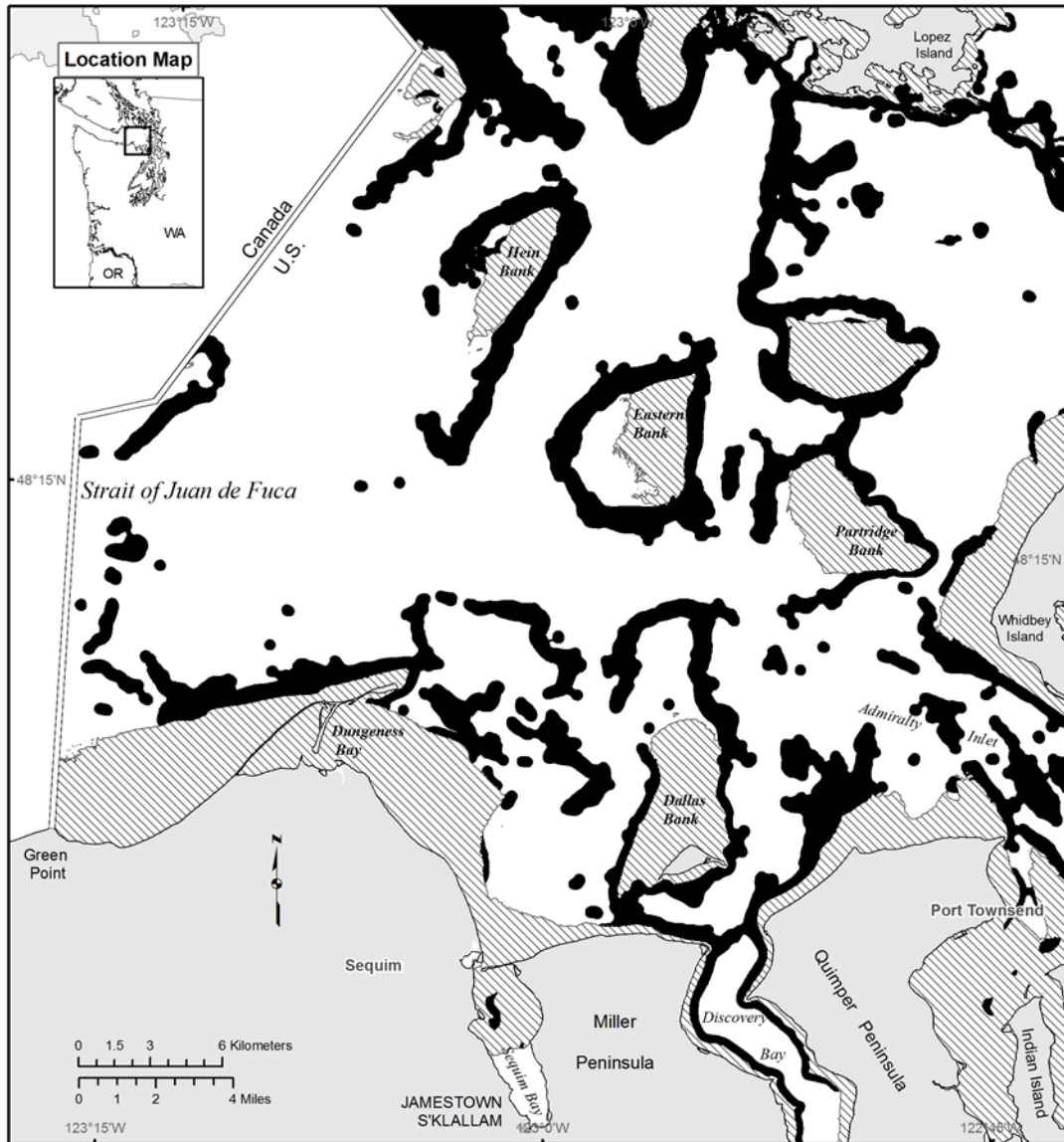


- Shoreline
- American Indian Reservation
- Proposed Deepwater CH (Bocaccio, Canary, and Yelloweye Rockfish)
- ▨ Proposed Nearshore CH (Bocaccio and Canary Rockfish)

This map does not show U.S. Department of Defense (DOD) sites determined to be ineligible for designation nor excluded areas associated with Indian lands and certain additional DOD sites; see the regulatory text for a description of these proposed excluded areas.

**Proposed Critical Habitat (CH) for the
Bocaccio, Canary, and Yelloweye Rockfish DPSs**

Juan de Fuca Basin Area

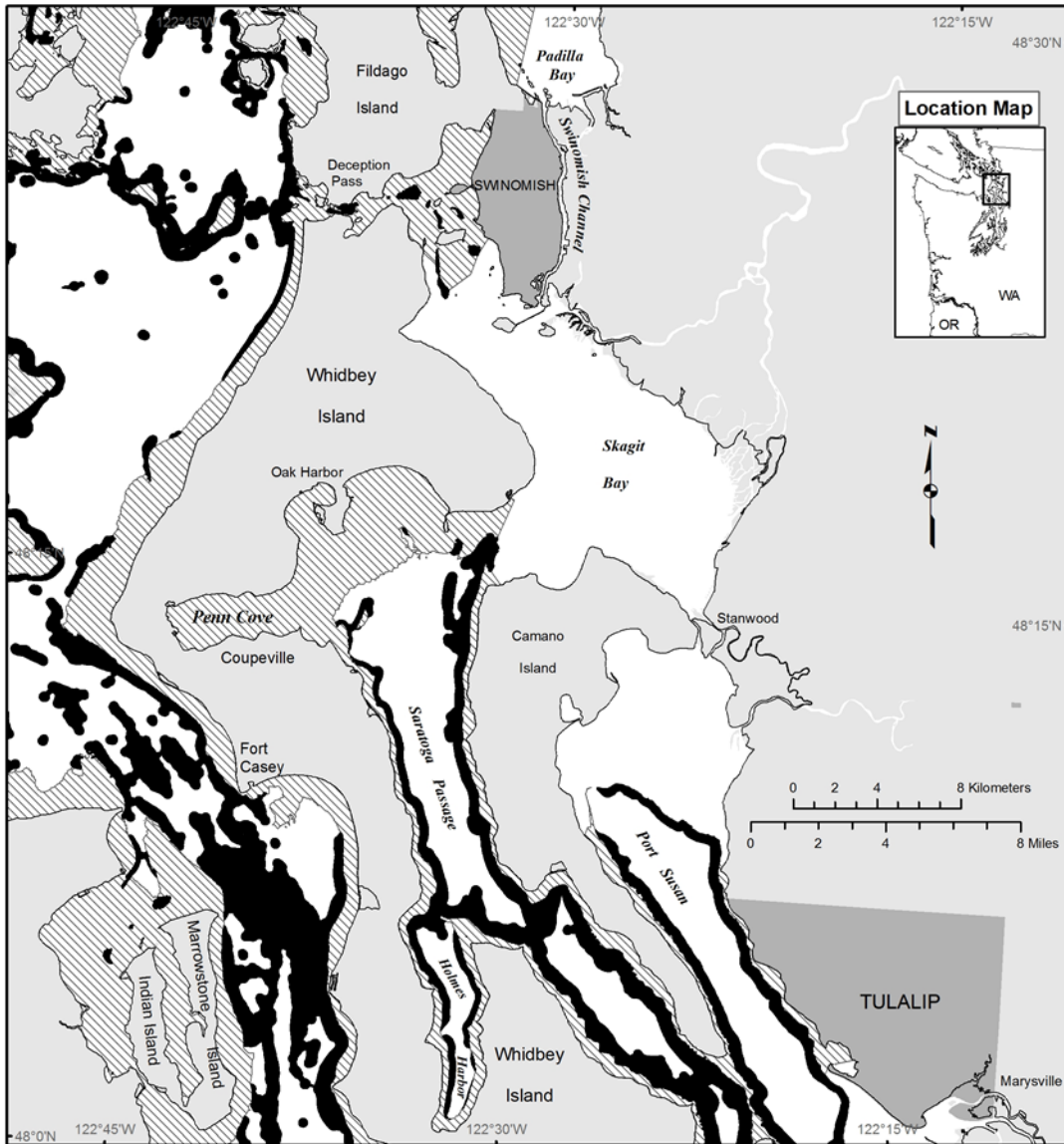


- U.S. / Canadian Boundary
- Shoreline
- American Indian Reservation
- Proposed Deepwater CH (Bocaccio, Canary, and Yelloweye Rockfish)
- ▨ Proposed Nearshore CH (Bocaccio and Canary Rockfish)

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**Proposed Critical Habitat (CH) for the
Bocaccio, Canary, and Yelloweye Rockfish DPSS**

North Whidbey Area

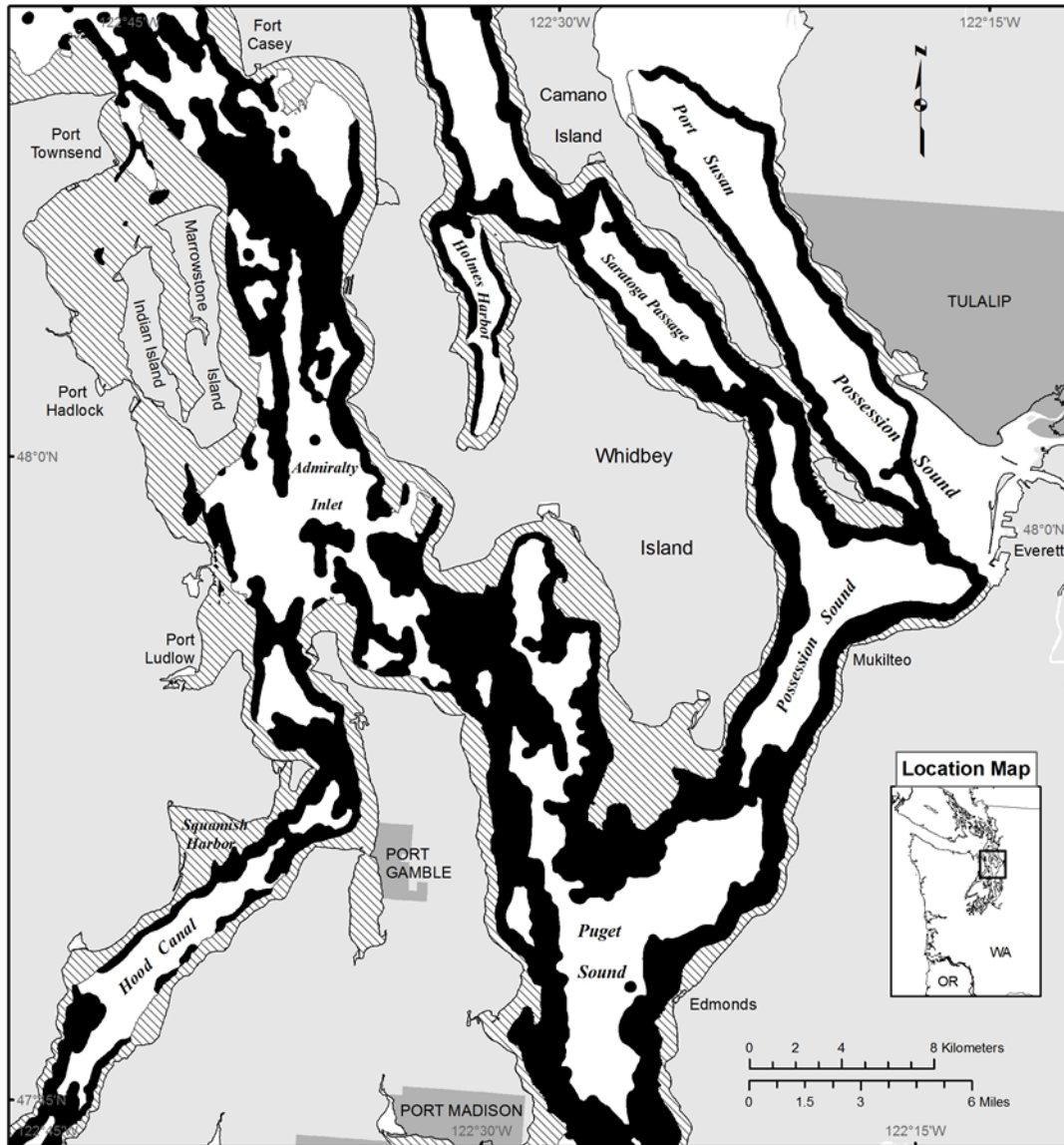


- Shoreline
- American Indian Reservation
- Proposed Deepwater CH (Bocaccio, Canary, and Yelloweye Rockfish)
- Proposed Nearshore CH (Bocaccio and Canary Rockfish)

This map does not show U.S. Department of Defense (DOD) sites determined to be ineligible for designation nor excluded areas associated with Indian lands and certain additional DOD sites; see the regulatory text for a description of these proposed excluded areas.

**Proposed Critical Habitat (CH) for the
Bocaccio, Canary, and Yelloweye Rockfish DPSs**

North Central Puget Sound Area

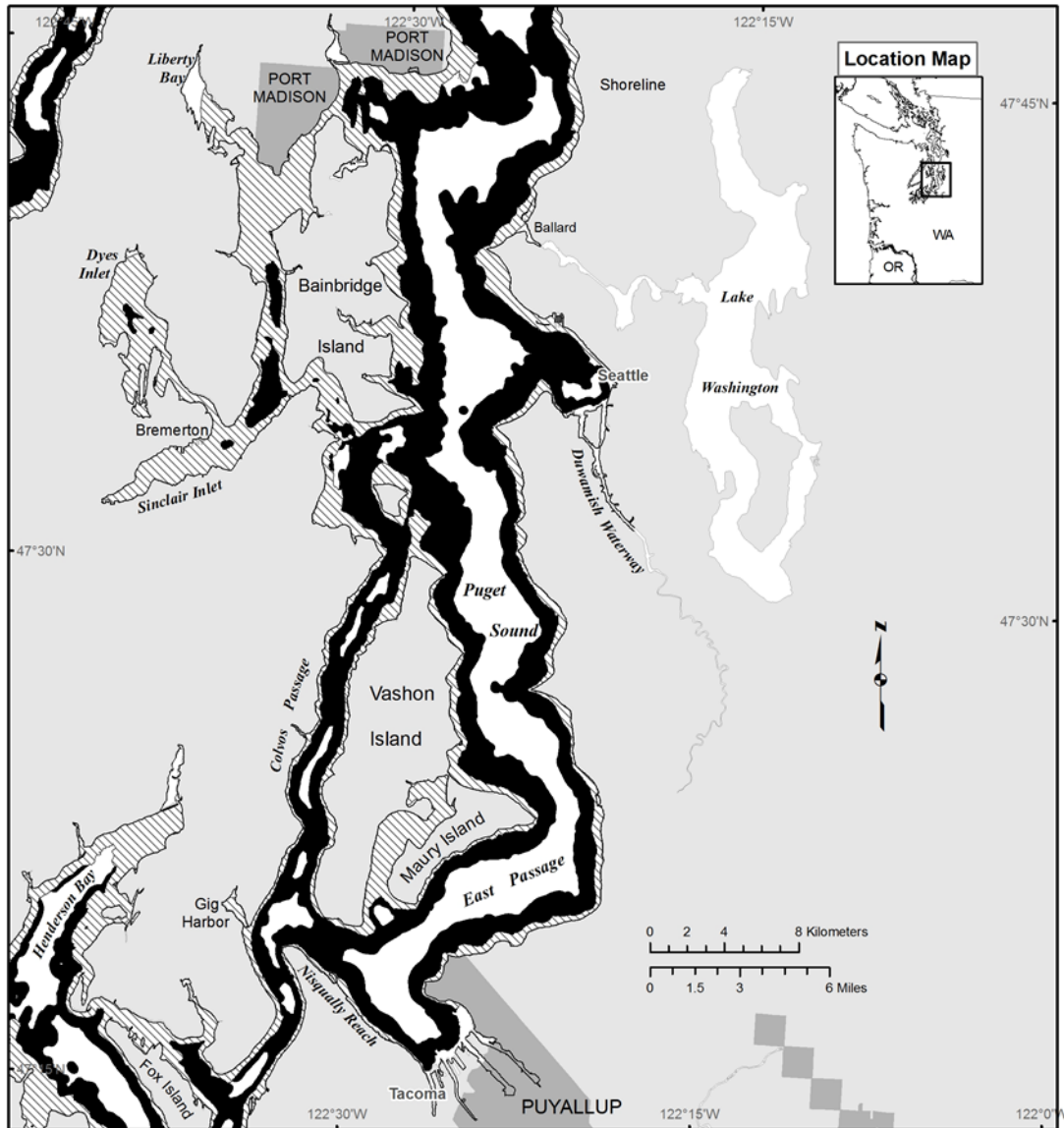


- ~ Shoreline
- American Indian Reservation
- Proposed Deepwater CH (Bocaccio, Canary, and Yelloweye Rockfish)
- ▨ Proposed Nearshore CH (Bocaccio and Canary Rockfish)

This map does not show U.S. Department of Defense (DOD) sites determined to be ineligible for designation nor excluded areas associated with Indian lands and certain additional DOD sites; see the regulatory text for a description of these proposed excluded areas.

**Proposed Critical Habitat (CH) for the
Bocaccio, Canary, and Yelloweye Rockfish DPSs**

South Central Puget Sound Area

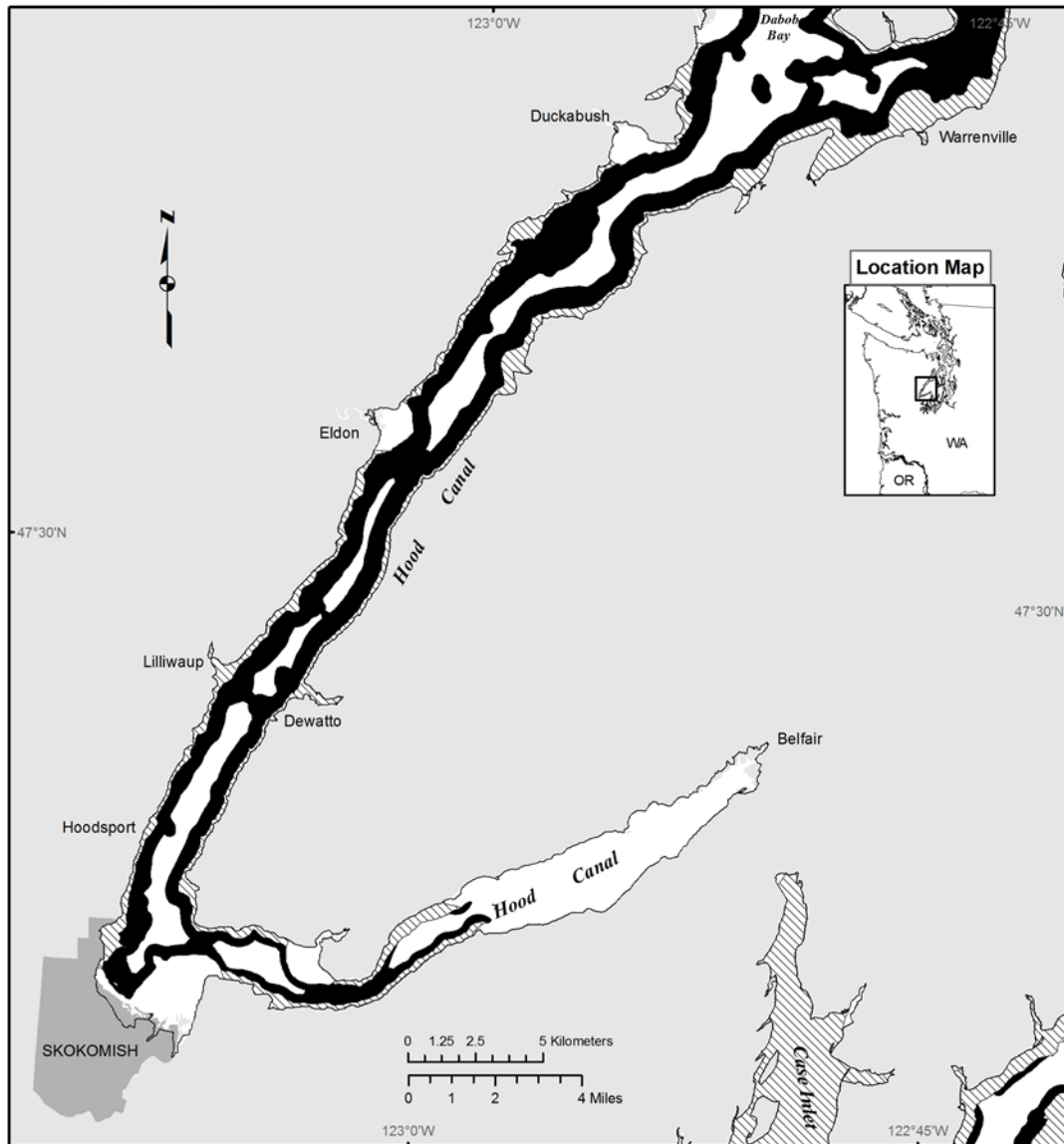


- Shoreline
- American Indian Reservation
- Proposed Deepwater CH (Bocaccio, Canary, and Yelloweye Rockfish)
- Proposed Nearshore CH (Bocaccio and Canary Rockfish)

This map does not show U.S. Department of Defense (DOD) sites determined to be ineligible for designation nor excluded areas associated with Indian lands and certain additional DOD sites; see the regulatory text for a description of these proposed excluded areas.

**Proposed Critical Habitat (CH) for the
Bocaccio, Canary, and Yelloweye Rockfish DPSs**

South Hood Canal Area

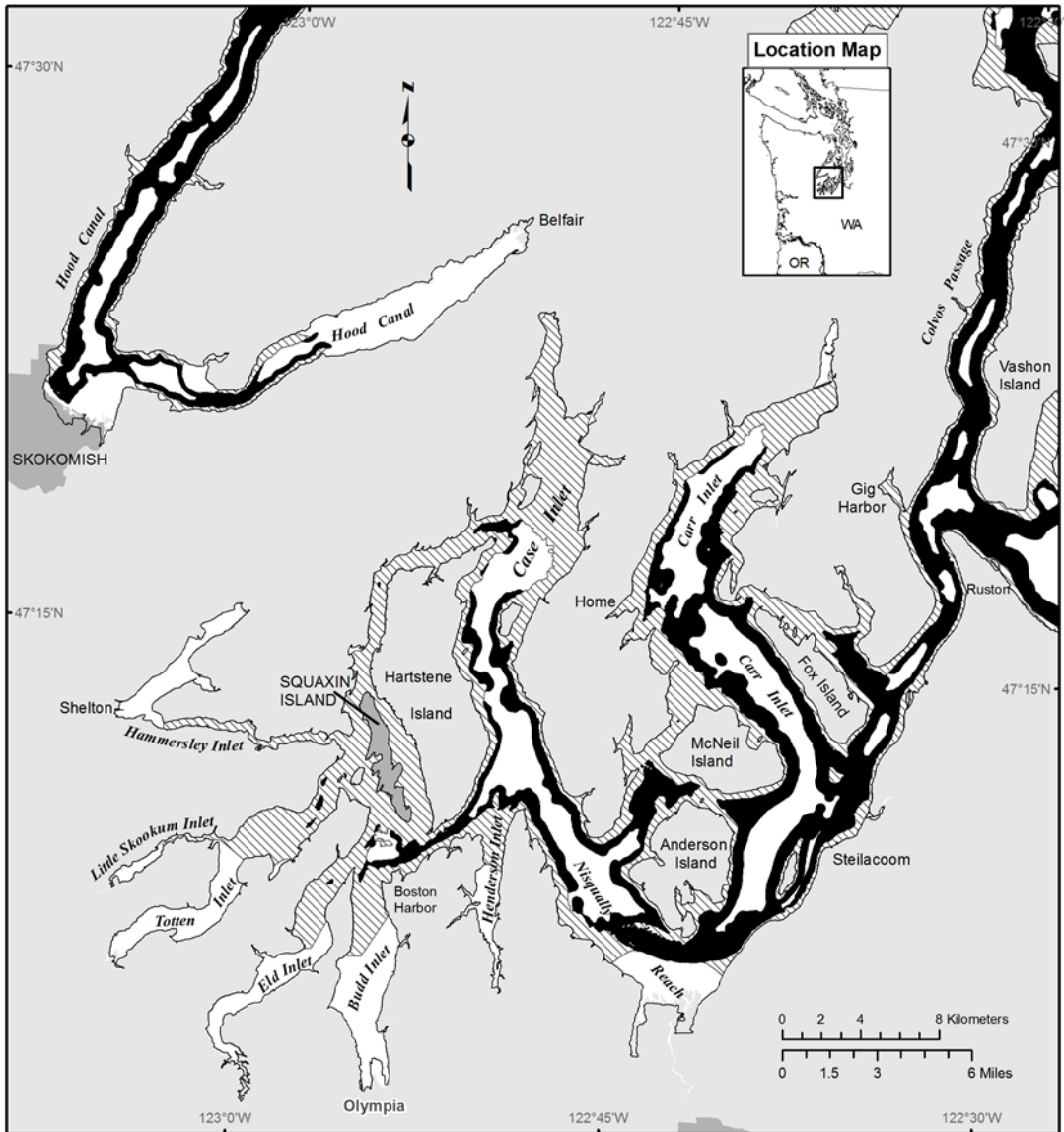


- ~ Shoreline
- American Indian Reservation
- Proposed Deepwater CH (Bocaccio, Canary, and Yelloweye Rockfish)
- ▨ Proposed Nearshore CH (Bocaccio and Canary Rockfish)

This map does not show U.S. Department of Defense (DOD) sites determined to be ineligible for designation nor excluded areas associated with Indian lands and certain additional DOD sites; see the regulatory text for a description of these proposed excluded areas.

**Proposed Critical Habitat (CH) for the
Bocaccio, Canary, and Yelloweye Rockfish DPSs**

South Puget Sound Area



This map does not show U.S. Department of Defense (DOD) sites determined to be ineligible for designation nor excluded areas associated with Indian lands and certain additional DOD sites; see the regulatory text for a description of these proposed excluded areas.

